ICOM®

SERVICE MANUAL

VHF AIR BAND TRANSCEIVERS

IC-A22
IC-A22E
IC-A3
IC-A3E

S-14201HZ-C1
May. 2005

Icom Inc.

INTRODUCTION

This service manual describes the latest service information for the **IC-A22/E** and **IC-A3/E** VHF AIR BAND TRANSCEIVERS at the time of publication.
6 versions of the **IC-A22/E** and 5 versions of the **IC-A3/E** have been designed. This service manual covers each version.

MODEL	VERSION NO.	VERSION	SYMBOL
IC-A22	#01	U.S.A.	USA
	#07	U.S.A.	USA-1
IC-A22E	#03	Europe	EUR
	#04	Europe	EUR-1
	#05	Australia	AUS
	#06	U.K.	UK
IC-A3	#01	U.S.A.	USA
IC-A3E	#03	Europe	EUR
	#04	Europe	EUR-1
	#05	Australia	AUS
	#06	U.K.	UK

To upgrade quality, all electrical or mechanical parts and internal circuits are subject to change without notice or obligation.

DANGER

NEVER connect the transceiver to an AC outlet or to a DC power supply that uses more than 15 V. Such a connection could cause a fire or electric hazard.

DO NOT expose the transceiver to rain, snow or any liquids.

DO NOT reverse the polarities of the power supply when connecting the transceiver.

DO NOT apply an RF signal of more than 20 dBm (100 mW) to the antenna connector. This could damage the transceiver's front end.

ORDERING PARTS

Be sure to include the following four points when ordering replacement parts:

1. 10-digit order numbers
2. Component part number and name
3. Equipment model name and unit name
4. Quantity required

<**SAMPLE ORDER**>

1110003680 IC	SC1303	IC-A22	RF unit	5 pieces
8810008480 Screw	PH BT M2×29 ZK	IC-A22	Chassis	10 pieces

Addresses are provided on the inside back cover for your convenience.

REPAIR NOTES

1. Make sure the problem is internal before disassembling the transceiver.
2. **DO NOT** open the transceiver until the transceiver is disconnected from its power source.
3. **DO NOT** force any of the variable components. Turn them slowly and smoothly.
4. **DO NOT** short any circuits or electronic parts. An insulated turning tool **MUST** be used for all adjustments.
5. **DO NOT** keep power ON for a long time when the transceiver is defective.
6. **DO NOT** transmit power into a signal generator or a sweep generator.
7. **ALWAYS** connect a 40 dB to 50 dB attenuator between the transceiver and a deviation meter or spectrum analyzer when using such test equipment.
8. **READ** the instructions of test equipment thoroughly before connecting equipment to the transceiver.

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SECTION 1 SPECIFICATIONS

■ GENERAL

• Frequency coverage (Unit; MHz) :

		IC-A22	IC-A22E	IC-A3	IC-A3E
TX	Communications	118.000–136.975	118.000–136.975	118.000–136.975	118.000–136.975
RX	Communications	118.000–136.975	118.000–136.975	118.000–136.975	118.000–136.975
	Navigation	108.000–117.975	108.000–117.975	–	–
	Weather	161.650–163.275	–	161.650–163.275	–

• Mode : Tx/Rx AM (6K00A3E)
Rx FM (16K0G3E; for weather channel/U.S.A versions only)

• Number of memory channels : 50

• Channel spacing : 25 kHz

• Frequency stability : ±20 ppm (–10ºC to +50ºC; 14ºF to +122ºF)

• Antenna impedance : 50 Ω (Nominal)

• Power supply requirement : 12–15 V DC (negative ground)

• Operating temperature range : –10ºC to +50ºC; 14ºF to +122ºF

• Current drain (at 12 V DC ; approx.) : Transmitting 1.0 A typical
Receiving (max. audio) 400 mA max.
(stand-by) 55 mA typical

• Dimensions : 57 (W)× 153 (H)× 35 (D) mm; 2 1/4 (W)× 6 1/32 (H)× 1 3/8 (D) in
(Projections not included, battery pack included)

• Weight (Approx.) : 465 g (16 13/32 oz) with battery pack and anntena

■ TRANSMITTER

• Output power (at 12 V DC)* : 5.0 W typical (PEP power)
1.5 W typical (Carrier power)

• Modulation : Low level modulation

• Microphone impedance : 150 Ω

• Spurious emissions* : Less than –60 dB

■ RECEIVER

• Receive system : Double conversion superheterodyne system

• Intermediate frequencies : 1st; 35.8 MHz, 2nd; 455 kHz

• Sensitivity* : AM; Less than 1 µV at 6 dB S/N (with 1 kHz, 30% modulation)
FM; Less than 1 µV at 12 dB SINAD (with 1 kHz, 70% modulation)

• Squelch sensitivity* : Less than 6.3 µV

• Selectivity* : More than 8 kHz/–6 dB
Less than 25 kHz/–60 dB

• Spurious response rejection* : Less than –60 dB

• Hum and Noise : Less than –25 dB

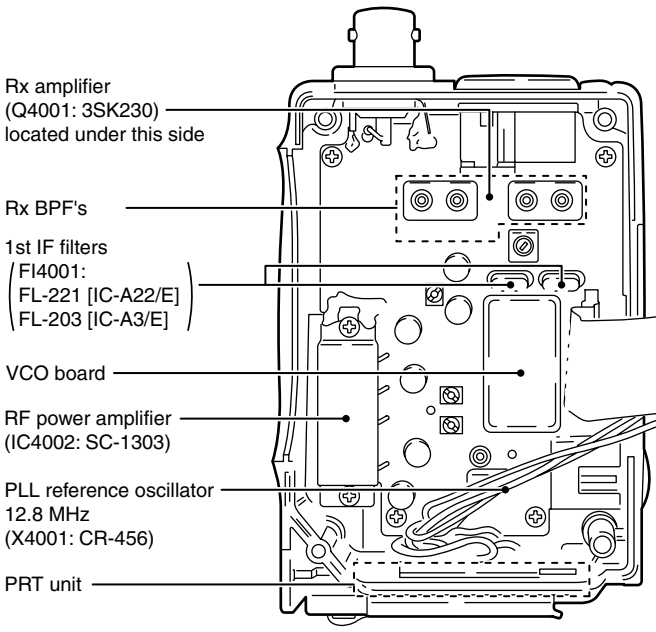
• Audio output power* (at 12 V DC) : More than 600 mW at 10% distortion with an 8 Ω load

• Audio output impedance : 8 Ω

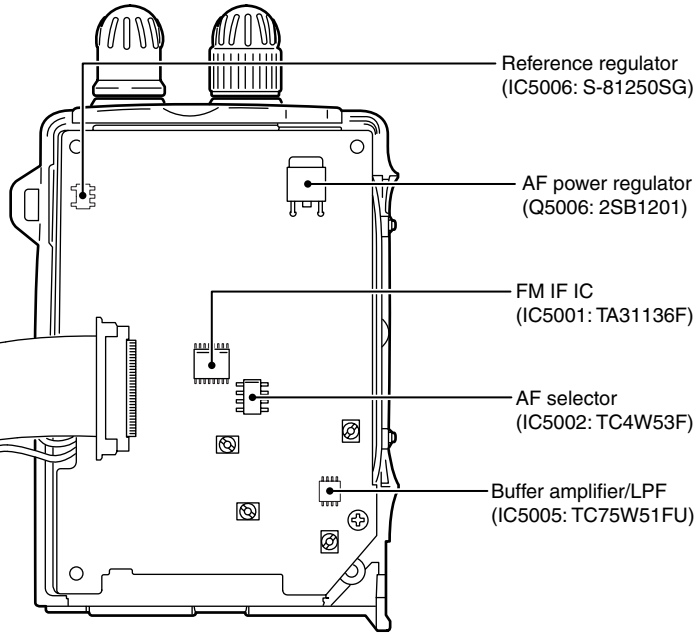
*Specifications guaranteed at a transceiver temperature of +25ºC (+77ºF).
All stated specifications are subject to change without notice or obligation.

SECTION 2 INSIDE VIEWS

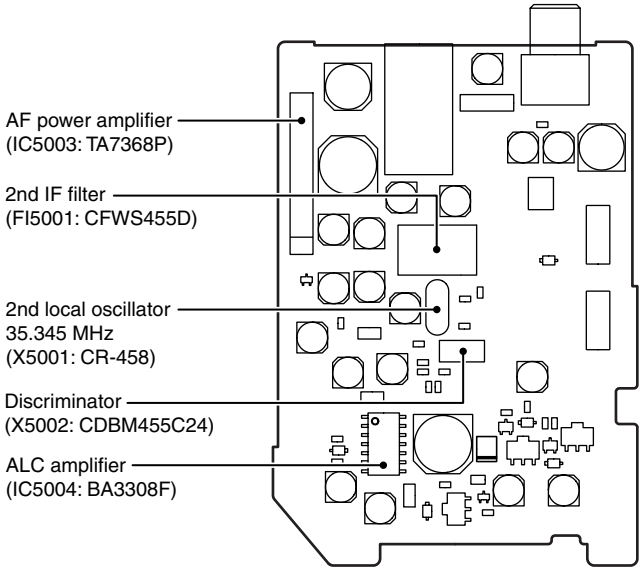
• RF UNIT



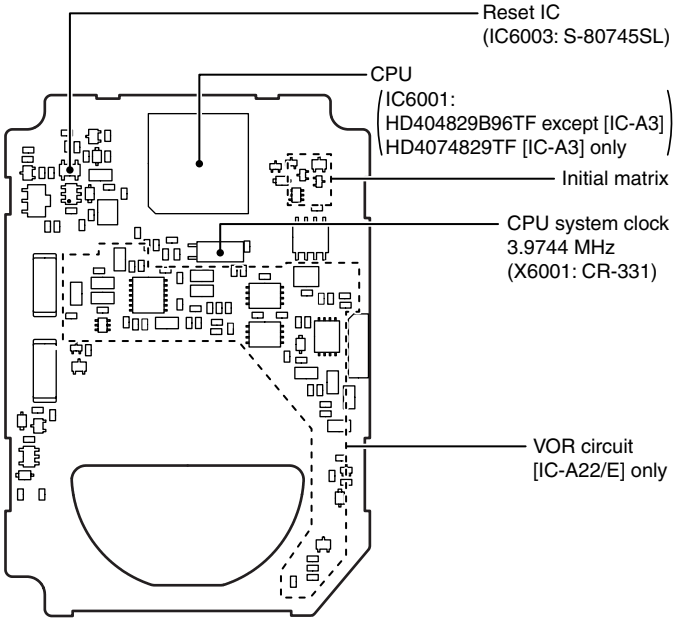
• MAIN UNIT (BOTTOM)



• MAIN UNIT (TOP)



• LOGIC UNIT



SECTION 3 CIRCUIT DESCRIPTION

3-1 RECEIVER CIRCUITS

3-1-1 ANTENNA SWITCHING CIRCUIT (RF UNIT)

The antenna switching circuit functions as a low-pass filter while receiving and a resonator circuit while transmitting. The circuit does not allow transmit signals to enter receiver circuits.

Received signals enter the RF unit from the antenna connector (J3001), and then pass through the low-pass filter (L4001–L4003, C4001–C4005) to suppress out-of-band signals. The filtered signals are passed through the $\lambda/4$ type antenna switching circuit (D4001–D4003) with a low-pass filter (L4004, L4005), and are then applied to the RF circuit.

3-1-2 RF CIRCUIT (RF UNIT)

The signals from the antenna switching circuit are passed through the tunable bandpass filter (D4006, D4007, L4008, L4009) and amplified at the RF amplifier (Q4001). The amplified signals are passed through the bandpass filter (D4008, D4009, L4010, L4011) again, and applied to the 1st mixer circuit.

D4006–D4009 are varactor diodes and are controlled by the PLL lock voltage. The voltage is buffer-amplified at Q4018 and is then applied to the varactor diodes. These varactor diodes tune the center frequency of an RF passband for wide bandwidth receiving and good image response rejection. For weather channel receiving, the tune voltage control circuit (Q4017, Q4019) supplies the bias voltage.

3-1-3 1ST MIXER AND 1ST IF CIRCUITS (RF UNIT)

The signals from the bandpass filter are mixed with a 1st LO signal from the VCO board, and are converted to a 35.8 MHz 1st IF signal. The 1st IF signal is applied to a pair of crystal filters (FI4001) to suppress out-of-band signals, and is then amplified at the 1st IF amplifier (Q4003).

3-1-4 2ND MIXER AND 2ND IF CIRCUITS (MAIN UNIT)

The 2nd mixer circuit converts the 1st IF signal to a 2nd IF signal. A double-conversion superheterodyne system improves the image rejection ratio and obtains stable receiver gain.

The 1st IF signal from the RF unit is applied to a 2nd mixer section of IC5001 (pin 16). The signal is then mixed with a 2nd LO signal for conversion to a 455 kHz 2nd IF signal.

IC5001 contains the 2nd mixer, local oscillator, limiter amplifier and quadrature detector. The local oscillator section generates 35.345 MHz using X5001.

The 2nd IF signal from the 2nd mixer (IC5001, pin 3) passes through the ceramic filter (FI5001) to remove unwanted heterodyned frequencies. It is then amplified at the 2nd IF amplifier (Q5002).

3-1-5 AM DETECTOR CIRCUIT (MAIN UNIT)

The AM detector circuit demodulates an AM signal on the communication band or navigation band.

The 2nd IF signal from Q5002 is amplified at IF amplifiers (Q5003, Q5030) again, and applied to the AM detector (Q5004). It is then detected for conversion to an AF signal.

3-1-6 FM DETECTOR CIRCUIT (MAIN UNIT)

The FM detector circuit demodulates an FM signal for weather channel receiving.

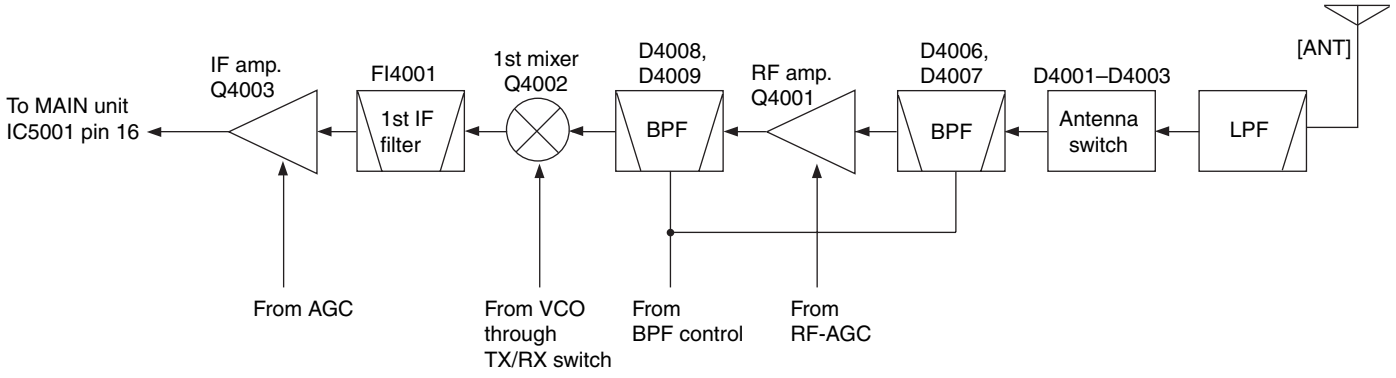
When receiving a weather channel, the 2nd IF signal from Q5002 is applied to the limiter amplifier section (IC5001, pin 5). To demodulate into AF signals, the 2nd IF signal is then applied to the quadrature detector section (IC5001, pins 10, 11) and the discriminator (X5002). The AF signal (detector signal) is output from the FM IF IC (IC5001, pin 9).

3-1-7 SQUELCH CIRCUIT (MAIN UNIT)

The squelch circuit cuts out AF signals when no RF signal is received.

A portion of the 2nd IF signal (from Q5002) is applied to the limiter amplifier section (IC5001, pin 5). Then the FM IF IC (IC5001) outputs a detected (IF level) signal from pin 12. This signal is applied to the comparator (IC5007), and is then compared with preset squelch voltage. Output from the comparator is applied to the AF selector (IC5002) as an "SQL" signal, and controls the AF signal line.

• BLOCK DIAGRAM OF RECEIVER CIRCUIT IN THE RF UNIT



3-1-8 AF CIRCUIT (MAIN UNIT)

The AF circuit drives the speaker.

AF signals from the detector circuit are selected at the AF selector (IC5002), and are passed through the AF filter (Q5026, Q5005) and volume control (R5082).

The signals are amplified at the AF power amplifier (IC5003) to a level needed to drive the speaker (SP3001).

3-1-9 AGC CIRCUIT (MAIN UNIT)

The AGC (Automatic Gain Control) circuit reduces signal fading and keeps the audio output level constant.

AF signals from the AM detector circuit (Q5004) are converted into DC voltage at integral circuits (R5030/C5026, R5105/C5025), and are then applied to inversion amplifiers (Q5010/Q5031).

These amplifiers reduce the amplifier gain of IF amplifiers (Q5002, Q5003, Q4003) and the RF amplifier (Q4001) while receiving a strong signal.

3-1-10 VOR CIRCUIT (LOGIC UNIT) [IC-A22/E only]

The VOR circuit detects a variable signal (VORC) and reference signal (VORS) from a VOR station. The VOR circuit sends these signals to the CPU (IC6001).

When the transceiver is set in the navigation band (108.000–117.975 MHz), the NAV port (IC6001, pin 43) becomes "HIGH" turning the VOR circuit ON via Q6108. Q6108 controls a 5 V power source for the VOR circuit.

The signal from the AM detector (DETO) is buffer amplified at the buffer amplifier (IC6105b).

The DETO signal includes 30 Hz variable phase components and 9960 Hz reference phase components.

The 30 Hz component passes through the 30 Hz bandpass filter (IC6105d), and is converted to a square-wave signal at the VORC comparator (IC6108a). The square-wave signal is then applied to IC6001 (pin 28) as a variable signal (VORC).

The 9960 Hz component passes through the 10 kHz bandpass filter (IC6105c). These components are FM modulated with 480 Hz deviation and 30 Hz modulation.

Signals are then amplified at a limiter amplifier (IC6106a), and detected at an FM detector (IC6106b) to obtain a 30 Hz reference signal.

The 30 Hz signal is compensated on phase at IC6107a. This signal is passed through the 30 Hz low-pass filter (IC6107b) and is converted to a square-wave signal at the VORS comparator (IC6108b). This signal is applied to IC6001 (pin 27) as a reference signal (VORS).

A portion of output from IC6105c is applied to the VOR sensor (Q6109, Q6110). When VOR signal level is low, the output from IC6105c is reduced. Q6110 cannot be turned ON, then IC6001 (pin 29) receives "HIGH" to indicate "OFF FLAG" indicator.

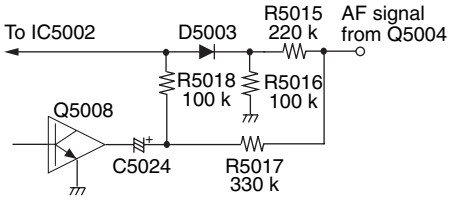
3-1-11 ANL CIRCUIT (MAIN UNIT)

The ANL (Automatic Noise Limiter) circuit (D5003, Q5008, R5015–R5018) reduces pulse noises.

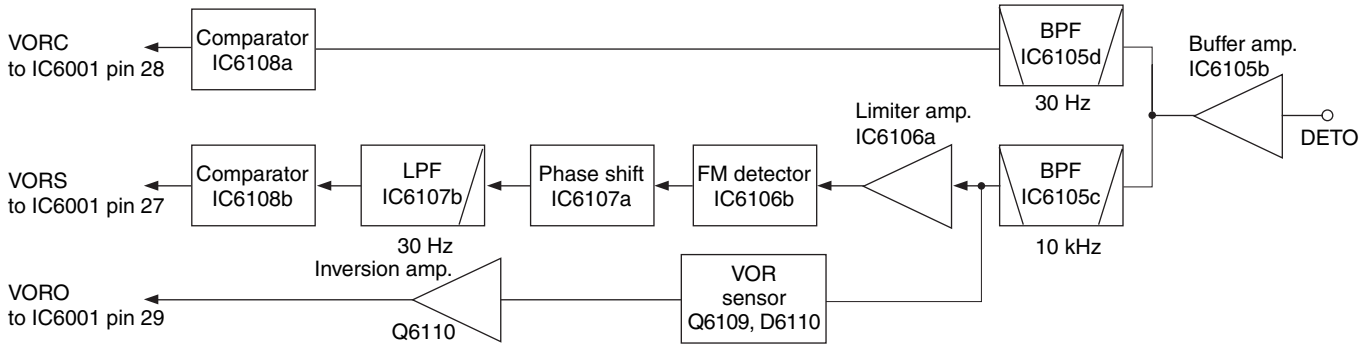
The AM detector output signal (DETO) from Q5004 is applied to the cathode of D5003 passing through R5015 where it is divided by R5015 and R5016. The DETO signal is also applied to the anode of D5003, passing through R5017 and R5018.

When the ANL function is activated (Q5008 is ON), C5024 is grounded. The detector output, including pulse noise, is applied to the cathode of D5003 only. If pulse noises are received, the cathode voltage of D5003 becomes higher than the anode voltage and D5003 turns OFF. Thus, while pulse noises are received, the detected signal is not applied to IC5002.

• ANL CIRCUIT



• VOR CIRCUIT BLOCK DIAGRAM



3-2 TRANSMITTER CIRCUITS

3-2-1 MICROPHONE AMPLIFIER CIRCUIT (MAIN UNIT)

AF signals from the microphone or from the [MIC] jack are applied to the ALC amplifier (IC5004, pin 9) through R5047. R5047 adjusts the microphone input level.

The output signal from IC5004 (pin 7) are amplified at the buffer amplifier (IC5005b) and low-pass filter (IC5005a). The signal (MOD) is applied to the AM modulator (D4012) on the RF unit.

When using a headset, the SIDET signal from Q4020 becomes “HIGH,” turning IC5008 ON. Then a portion of amplified signal from IC5005b is applied to the AF power amplifier (IC5003) as a monitor signal.

3-2-2 MODULATION CIRCUIT (RF UNIT)

Using the MOD signal from the microphone amplifier circuit, the modulation circuit modulates Tx LO signal from the VCO.

During transmission, the LO signal from the VCO board is output through buffer amplifiers (Q4004, Q4005) and Tx/Rx switch (D4010). This signal is then applied to the AM modulator (D4012).

Q4006 amplifies the LO signal with a gain controlled by an AF signal (MOD) to make low level modulation.

3-2-3 DRIVE/POWER AMPLIFIER CIRCUITS (RF UNIT)

The modulated RF signal from Q4006 is amplified by the pre-drive amplifier (Q4007) and the power amplifier (IC4002) in sequence to obtain 5 W (at 12 V DC) of transmit output power. The amplified signal is passed through the antenna switching circuit (D4003) and low-pass filter (L4001–L4003, C4001–C4005) and is then applied to the antenna connector (J3001).

3-2-4 APC CIRCUIT (MAIN UNIT)

The APC circuit protects the power amplifier (IC4002) from a mismatched output load.

The APC detector circuit (D4005, D4004, L4006) detects forward signals and rectified signals at D4005 and D4004 respectively. The combined voltage is at a minimum level when the antenna is matched at 50 Ω, and is increased when it is mismatched.

The detected voltage is applied to one of the differential amplifier input (Q4010) and a power setting voltage is applied to the other input. When the antenna impedance is mismatched, the detected voltage exceeds the APC output current via Q4014 to decrease the output power.

The current of the APC attenuator (D4013) is controlled by the APC circuit to protect the power amplifier from a mismatched condition as well as stabilize the output power.

3-3 PLL CIRCUITS

3-3-1 GENERAL (RF UNIT)

A PLL circuit provides stable oscillation of the transmitting frequency and the receiving frequency. The PLL output frequency is controlled by the divided ratio (N-data) of the programmable divider.

3-3-2 VCO CIRCUIT (VCO BOARD)

The VCO (Q7001, Q7002, D7001) employs an oscillation circuit. Frequency shifting for transmitting (or weather channel receiving) and receiving is performed by changing the bias voltage of D7002.

LO signals generated by the VCO are amplified at the buffer amplifier (Q7003), and are then applied to the 1st mixer (Q4002) or AM modulator (D4012) through buffer amplifiers (Q4004, Q4005) and Tx/Rx switch (D4010, D4021). Signals from Q7003 are also applied to the PLL IC (IC4001) through a buffer amplifier (Q4015).

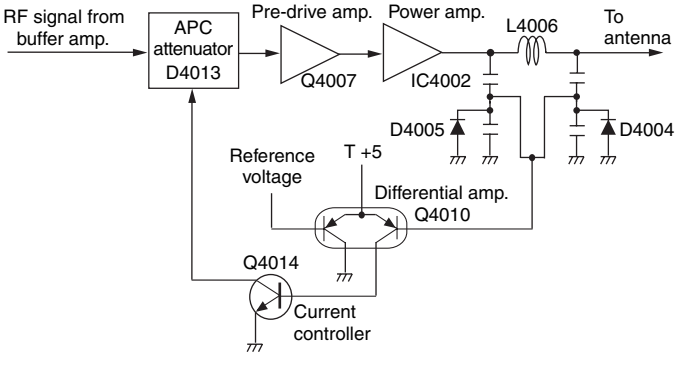
3-3-3 PROGRAMMABLE DIVIDER (RF UNIT)

Signals from Q4015 are input into the PLL IC (IC4001, pin 2), and divided N times at the programmable divider section. The divided signals are detected on phase at the phase detector section using the reference frequency. The output signal from the phase detector is passed through the charge pump, and is output from pin 8.

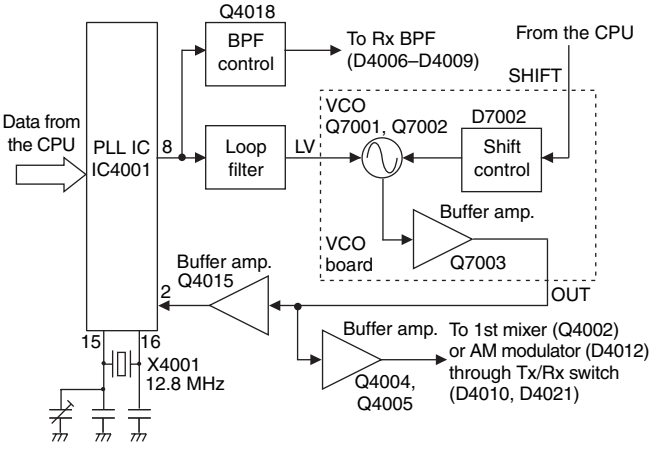
The output signal (error pulse) from pin 8 passes through a loop filter (R4064, R4065, C4102, C4104) and changes DC voltage. This signal is applied to the VCO board as the PLL lock voltage (LV).

The output signal from pin 8 is also applied to the BPF control circuit (Q4018, D4019) to change the center frequency of the receiver bandpass filters.

• APC CIRCUIT



• PLL CIRCUIT BLOCK DIAGRAM



3-4 POWER SUPPLY CIRCUITS

LINE	DESCRIPTION
HV	Voltage line from the attached battery pack or the [DC 12V] jack.
VCC	The same voltage as the HV line which is controlled by [POWER] switch (R5052).
5V	Common 5 V converted from the VCC line by the 5V regulator circuit (Q5014, Q5015, D5005) using the reference regulator (IC5006) on the MAIN unit.
+5	Common 5 V converted from the VCC line by the +5 regulator circuit (Q5016, Q5017, D5006) using 5V line as the reference voltage.
R5	5 V for receiver circuit converted from the VCC line by the R5 regulator circuit (Q5018, Q5019, Q5020, D5007). R5 is controlled by Q5018 using TRC signal from the CPU(IC6001).
T+5	5 V for transmitter circuit controlled by the TMUT signal from the CPU (IC6001). T+5 regulator circuit is located on the RF unit and consists of Q4012, Q4013 and D4016.

3-5 CPU PORT ALLOCATIONS

PIN NO.	PORT NAME	DESCRIPTION
2	LBATT	Input port for detecting the connected battery (or external DC input) voltage for "LOW BATT" or "OVER V" indication.
3	SQL	Input port for the squelch condition. When squelch open: Low
4	LOK	Input port for the PLL condition. When PLL in unlocked: High
14	CLK	Outputs a clock signal to the PLL IC (IC4001).
15	DATA	Outputs N-data to the PLL IC.
16	ENB	Outputs a strobe signal to the PLL IC.
17	SCL	Outputs a clock signal to the EEPROM (IC6002).
18	SDA	Outputs data to the EEPROM.
19	UP	Input port for the tuning dial "UP" clock.
20	DOWN	Input port for the tuning dial "DOWN" clock.
21	LIGHT	Outputs a backlit control signal for the LCD and keypad. High: for lighting
22	BEEP	Outputs beep signals.
23	CLONE	Outputs clone data.
24	PTT	Input port for the PTT switch. When PTT is pushed: High
25	CLONE	Input port for the clone reading.
26	BACK UP	Input port for the CPU backup signal.
27	VORS*	Input port for the VOR reference signal.
28	VORC*	Input port for the VOR variable signal.
29	VORO*	Input port for the VOR level signal.
30–33	R10–R13	Output ports for the key matrix.
34–37	R20–R30	Input port for the key matrix.
38–41	R31–R33	Input port for the initial matrix.
42	WX	Outputs the WX control signal. High: when a WX channel is selected.
43	NAV*	Outputs the navigation channel signal. High: when a NAV channel is selected.
44	ANL	Outputs the ANL signal. High: to activate the ANL function
46	AFON	Outputs the AF power amplifier control signal. High: to activate the amplifier
47	TRC	Outputs a Tx/Rx control signal. High: for Tx
48	TMUT	Outputs a Tx mute signal. Low: for muting
49	SHIFT	Outputs a "shift" signal for VCO oscillating frequency.

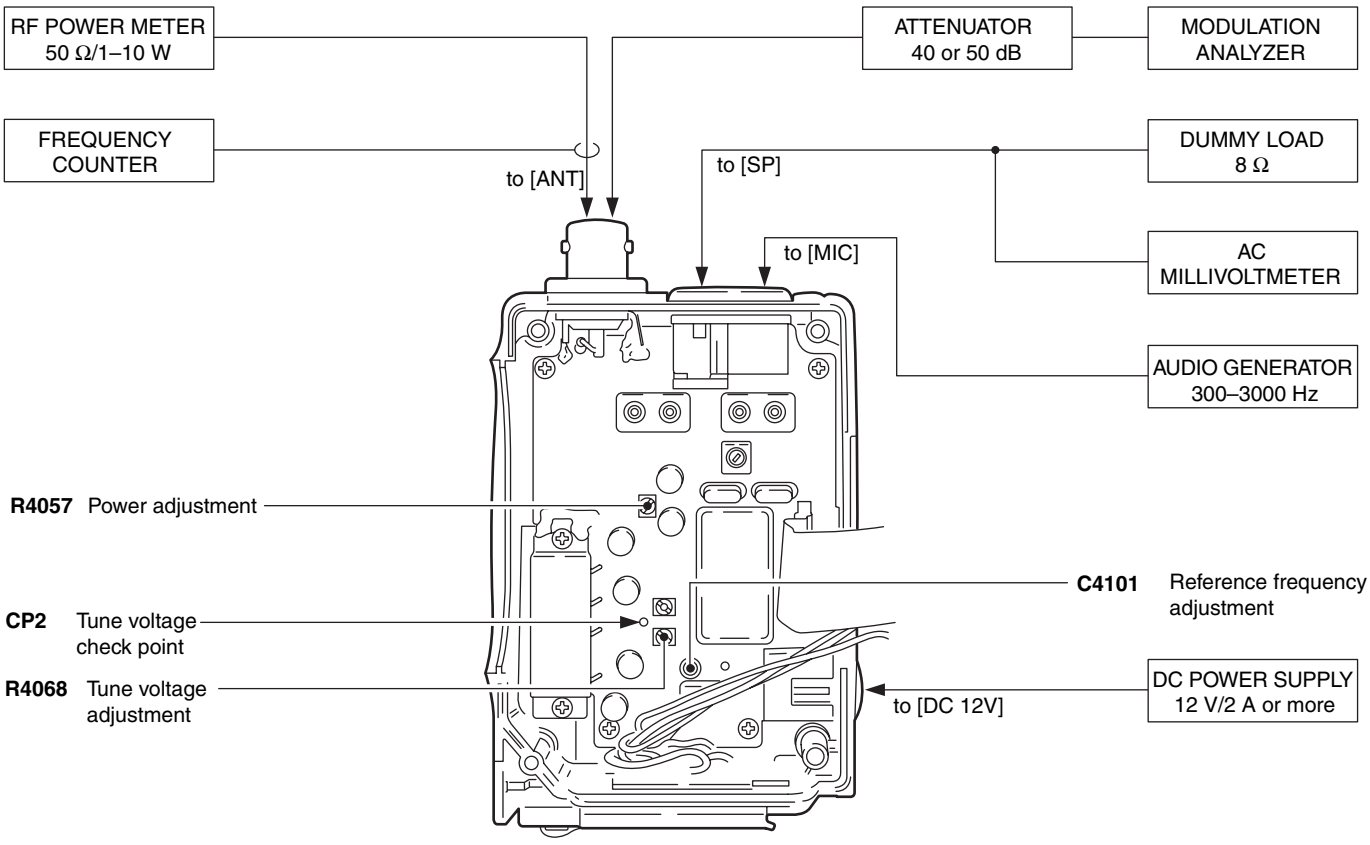
Note: * for IC-A22/E only

SECTION 4 ADJUSTMENT PROCEDURES

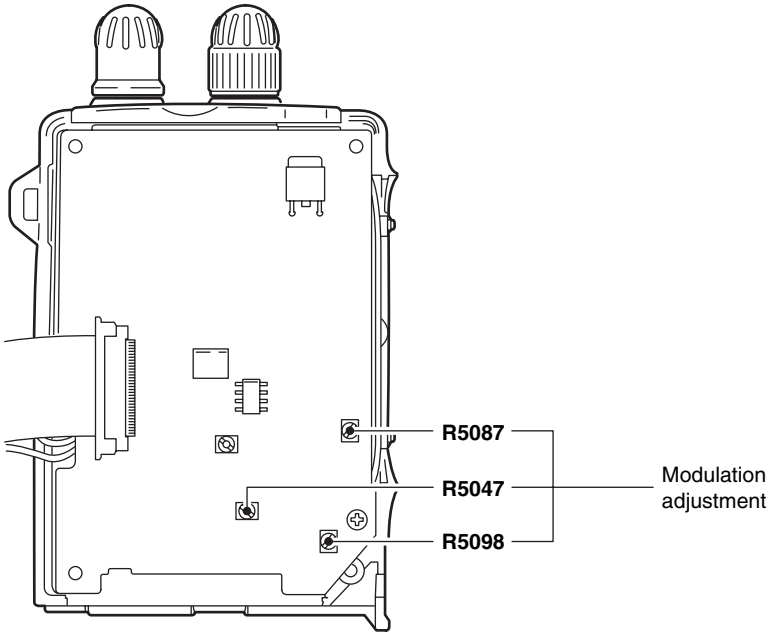
4-1 PLL AND TRANSMITTER ADJUSTMENTS

ADJUSTMENT		ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT POINT	
			UNIT	LOCATION		UNIT	ADJUST
TUNE VOLTAGE	1	• Displayed frequency : 118.025 MHz • Receiving	RF	Connect the digital multimeter or oscilloscope to CP2 (TUNE).	1.4–1.6 V	RF	R4068
REFERENCE FREQUENCY	1	• Displayed frequency : 136.975 MHz • Connect the RF power meter or a 50 Ω dummy load to the antenna connector. • Transmitting	Top pannel	Loosely couple the frequency counter to the antenna connector.	136.975000 MHz ±400 Hz	RF	C4101
POWER	1	• Displayed frequency : 118.025 MHz • Apply no AF signal to the [MIC] jack. • Transmitting	Top pannel	Connect the RF power meter to the antenna connector.	1.5 W (Carrier power)	RF	R4057
MODULATION	1	• Displayed frequency : 136.975 MHz • R5047, R5098 : Center • Connect the AG to the [MIC] jack and set as; Frequency : 1 kHz Level : 200 mV • Transmitting	Top pannel	Connect the modulation analyzer to the antenna connector via an attenuator.	85%	MAIN	R5098
	2	• Set the AG as; Level : 20 mV			30%	MAIN	R5047
SIDE TONE	1	• Connect the AG to the [MIC] jack and set as; Frequency : 1 kHz Level : 200 mV • Transmitting	Top pannel	Connect the AC millivoltmeter with an 8 Ω dummy load to the [SP] jack.	20 mW (0.4 V)	MAIN	R5087

• RF UNIT



• MAIN UNIT

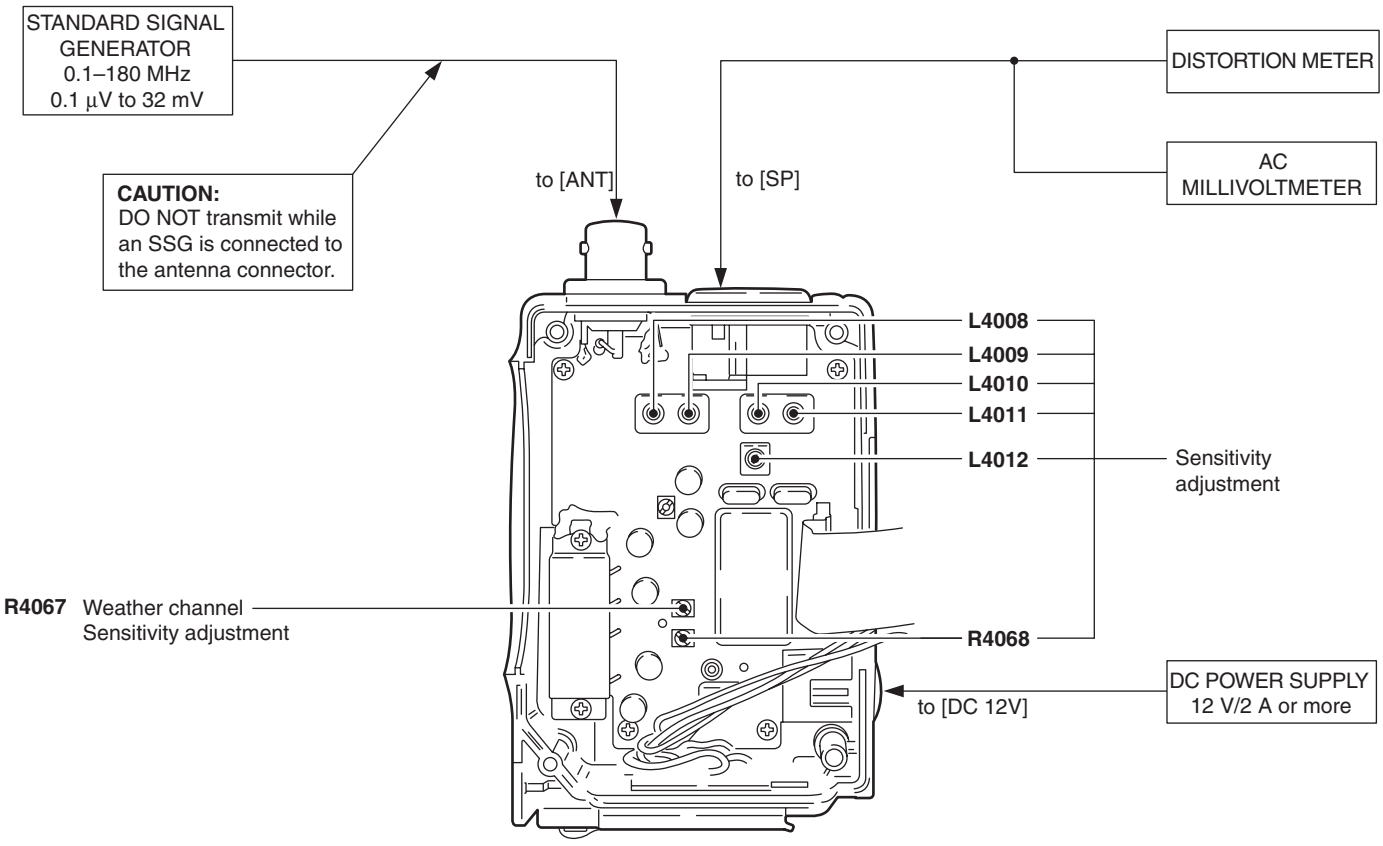


4-2 RECEIVER ADJUSTMENT

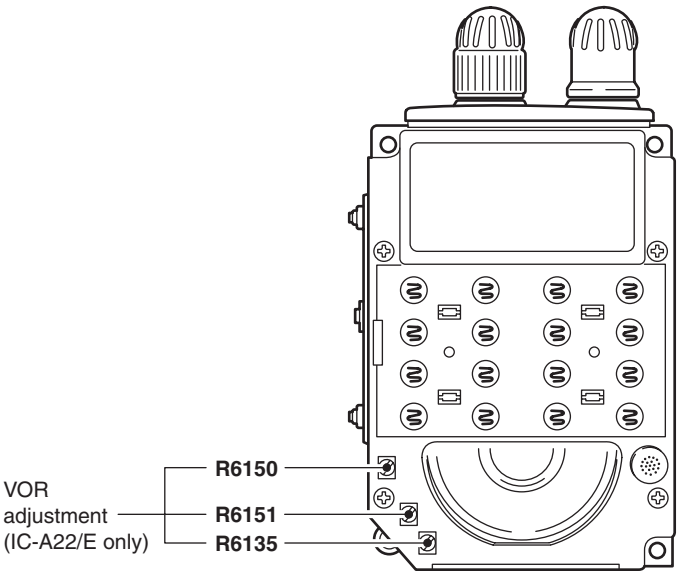
ADJUSTMENT		ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT POINT	
			UNIT	LOCATION		UNIT	ADJUST
SENSITIVITY	1	• Displayed frequency : 118.025 MHz • Connect the SSG to the antenna connector and set as; Frequency : 118.025 MHz Level : 0 dBµ* (–107 dBm) Modulation : AM, 1 kHz, 30% • Receiving	Top pannel	Connect the AC millivoltmeter with an 8 Ω dummy load to the [SP] jack.	Maximum audio output	RF	L4008–L4011 (Repeat two times)
	2	• Displayed frequency : 136.975 MHz • Set the SSG as; Frequency : 136.975 MHz					R4068, L4012
WEATHER CHANNEL SENSITIVITY (USA version only)	1	• Displayed frequency : 162.550 MHz • Weather ch. : 01 • Connect the SSG to the antenna connector and set as; Frequency : 162.550 MHz Level : 0.56 µV* (–112 dBm) FM deviation : ±3.5 kHz Modulation : 1 kHz • Receiving	Top pannel	Connect the distortion meter to the [SP] jack.	Minimum distortion	RF	R4067
SQUELCH	1	• Displayed frequency : 118.025 MHz • Connect the SSG to the antenna connector and set as; Frequency : 118.025 MHz Level : 2.0 µV* (–101 dBm) Modulation : AM, 1 kHz, 30% • [SQL] control : Max. counter-clockwise • Receiving	Top pannel	Speaker	Squelch just closes	MAIN	R5114
VOR (IC-A22/E only)	1	• While pushing [1] and [9], turn power ON to enter the VOR setting mode. • Displayed frequency : 113.000 MHz • Connect the SSG to the antenna connector and set as; Frequency : 113.000 MHz Level : 0.22 mV* (–60 dBm) Modulation : 9960 Hz, 30% 30 Hz, 30% • Bearing : "FROM, 90°"	Top pannel	Function display	"FROM, 90°" ±3°	LOGIC	R6151
	2	• R6150 : Center • Receiving			"FROM, 90°"		R6150
	3	• set the SSG as; Level : 7.1 µV* (–90 dBm) Modulation : 9960 Hz, 10% [#06] only 9960 Hz, 15% Except [#06] 30 Hz, 30%			Course indicator just appears.		R6135

*This output level of the standard signal generator (SSG) is indicated as SSG's open circuit.

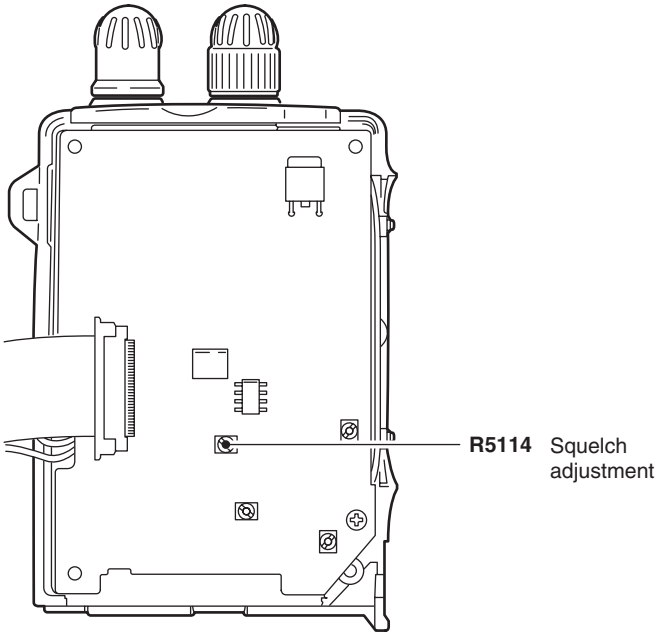
• RF UNIT



• LOGIC UNIT (for IC-A22/E)



• MAIN UNIT



SECTION 5 PARTS LIST

• IC-A22/E

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION
IC4001	1130007610	S.IC µPD3140GS-E1 (DS8)
IC4002	1110003680	IC M68721/SC1303
Q4001	1580000650	S.FET 3SK230-T2 U1B
Q4002	1580000400	S.FET 3SK151-Y (TE85L)
Q4003	1530002600	S.TR 2SC4215-O (TE85R)
Q4004	1530002560	S.TR 2SC4403-3-TL
Q4005	1530002560	S.TR 2SC4403-3-TL
Q4006	1530002560	S.TR 2SC4403-3-TL
Q4007	1530003340	S.TR 2SC3357-T1 RF
Q4010	1590001160	S.TR XP1401-(TX) AB
Q4011	1590003270	S.TR UNR9210J-(TX)
Q4012	1530003280	S.TR 2SC4211-6-TL
Q4013	1520000460	S.TR 2SB1132 T100 R
Q4014	1530003280	S.TR 2SC4211-6-TL
Q4015	1530002560	S.TR 2SC4403-3-TL
Q4016	1590003270	S.TR UNR9210J-(TX)
Q4017	1590003410	S.TR UNR9110J-(TX)
Q4018	1590001650	S.TR XP4601 (TX)
Q4019	1590003270	S.TR UNR9210J-(TX)
Q4020	1590001650	S.TR XP4601 (TX)
Q4021	1530002850	S.TR 2SC4116-BL (TE85R)
D4001	1790000620	S.DIO MA77 (TX)
D4002	1790000620	S.DIO MA77 (TX)
D4003	1790000620	S.DIO MA77 (TX)
D4004	1790000660	S.DIO MA728 (TX)
D4005	1790000660	S.DIO MA728 (TX)
D4006	1790001290	S.VCP MA304 (TX)
D4007	1790001290	S.VCP MA304 (TX)
D4008	1790001290	S.VCP MA304 (TX)
D4009	1790001290	S.VCP MA304 (TX)
D4010	1790000620	S.DIO MA77 (TX)
D4012	1750000460	S.DIO 1SV246-TL
D4013	1750000460	S.DIO 1SV246-TL
D4016	1790001280	S.DIO MA111 (TX)
D4017	1730002300	S.ZEN MA8082-M (TX)
D4018	1790000850	S.DIO MA132WK (TX)
D4019	1790000860	S.DIO MA133 (TX)
D4020	1790001030	S.DIO SB30-03P-TD
D4021	1790000620	S.DIO MA77 (TX)
D4022	1790001330	S.ZEN MA8036-L (TX)
D4025	1790001030	S.DIO SB30-03P-TD
FI4001	2010001830	FIL FL-221 (35.800000 MHz)
X4001	6050008730	XTL CR-456
L4001	6200002820	S.COL LQW31HN47NJ01L
L4002	6200002390	S.COL LQW31HN64NJ01L
L4003	6200002390	S.COL LQW31HN64NJ01L
L4004	6200002380	S.COL LQW31HN56NJ01L
L4005	6200002820	S.COL LQW31HN47NJ01L
L4006	6200002380	S.COL LQW31HN56NJ01L
L4007	6200001520	S.COL MLF2012D R82K-T
L4008	6130001740	COL LB-170
L4009	6130001750	COL LB-172
L4010	6130002850	COL LB-326
L4011	6130001750	COL LB-172
L4012	6150004390	S.COL LS-492
L4014	6200001920	S.COL ELJNC R15K-F
L4015	6200001920	S.COL ELJNC R15K-F
L4016	6200001630	S.COL ELJNC R10K-F
L4017	6200002390	S.COL LQW31HN64NJ01L
L4025	6200002190	S.COL MLF2012A 4R7K-T
L4027	6200002190	S.COL MLF2012A 4R7K-T
L4028	6200003550	S.COL MLF1608A 4R7K-T
R4001	7030003320	S.RES ERJ3GEYJ 101 V (100 Ω)
R4004	7030003370	S.RES ERJ3GEYJ 271 V (270 Ω)
R4005	7030003370	S.RES ERJ3GEYJ 271 V (270 Ω)
R4006	7030003620	S.RES ERJ3GEYJ 333 V (33 kΩ)
R4007	7030003720	S.RES ERJ3GEYJ 224 V (220 kΩ)
R4008	7030003720	S.RES ERJ3GEYJ 224 V (220 kΩ)
R4009	7030003720	S.RES ERJ3GEYJ 224 V (220 kΩ)

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R4010	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R4011	7030003640	S.RES ERJ3GEYJ 473 V (47 kΩ)
R4012	7030003280	S.RES ERJ3GEYJ 470 V (47 Ω)
R4013	7030003280	S.RES ERJ3GEYJ 470 V (47 Ω)
R4014	7030003720	S.RES ERJ3GEYJ 224 V (220 kΩ)
R4015	7030003720	S.RES ERJ3GEYJ 224 V (220 kΩ)
R4016	7030003760	S.RES ERJ3GEYJ 474 V (470 kΩ) [AUS], [UK], [USA-1] only
R4017	7030003670	S.RES ERJ3GEYJ 823 V (82 kΩ)
R4018	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R4019	7030003200	S.RES ERJ3GEYJ 100 V (10 Ω)
R4020	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R4021	7030003320	S.RES ERJ3GEYJ 101 V (100 Ω)
R4022	7030003410	S.RES ERJ3GEYJ 561 V (560 Ω)
R4023	7030003770	S.RES ERJ3GEYJ 564 V (560 kΩ) [AUS], [UK], [USA-1] only
R4024	7030003480	S.RES ERJ3GEYJ 222 V (2.2 kΩ)
R4025	7030003500	S.RES ERJ3GEYJ 332 V (3.3 kΩ)
R4027	7030003220	S.RES ERJ3GEYJ 150 V (15 Ω)
R4028	7030003220	S.RES ERJ3GEYJ 150 V (15 Ω)
R4029	7030003460	S.RES ERJ3GEYJ 152 V (1.5 kΩ)
R4030	7030003610	S.RES ERJ3GEYJ 273 V (27 kΩ)
R4031	7030003340	S.RES ERJ3GEYJ 151 V (150 Ω)
R4032	7030003610	S.RES ERJ3GEYJ 273 V (27 kΩ)
R4033	7030003340	S.RES ERJ3GEYJ 151 V (150 Ω)
R4034	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R4035	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R4036	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R4037	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R4039	7030003620	S.RES ERJ3GEYJ 333 V (33 kΩ)
R4040	7030003580	S.RES ERJ3GEYJ 153 V (15 kΩ)
R4041	7030003360	S.RES ERJ3GEYJ 221 V (220 Ω)
R4042	7030003440	S.RES ERJ3GEYJ 102 V (1 kΩ)
R4043	7030003440	S.RES ERJ3GEYJ 102 V (1 kΩ)
R4044	7030003480	S.RES ERJ3GEYJ 222 V (2.2 kΩ)
R4045	7030003440	S.RES ERJ3GEYJ 102 V (1 kΩ)
R4047	7030003290	S.RES ERJ3GEYJ 560 V (56 Ω)
R4054	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R4056	7030003660	S.RES ERJ3GEYJ 683 V (68 kΩ)
R4057	7310004660	S.TRI EVM-2WSX80 B54 (503)
R4058	7030003600	S.RES ERJ3GEYJ 223 V (22 kΩ)
R4059	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R4060	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R4061	7030003650	S.RES ERJ3GEYJ 563 V (56 kΩ)
R4064	7030003440	S.RES ERJ3GEYJ 102 V (1 kΩ)
R4065	7030003480	S.RES ERJ3GEYJ 222 V (2.2 kΩ)
R4066	7030003440	S.RES ERJ3GEYJ 102 V (1 kΩ)
R4067	7310004530	S.TRI EVM-2WSX80 B14 (103)
R4068	7310004530	S.TRI EVM-2WSX80 B14 (103)
R4069	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R4070	7030003420	S.RES ERJ3GEYJ 681 V (680 Ω)
R4071	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R4072	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R4073	7030003360	S.RES ERJ3GEYJ 221 V (220 Ω)
R4079	7030003640	S.RES ERJ3GEYJ 473 V (47 kΩ)
R4080	7030003760	S.RES ERJ3GEYJ 474 V (470 kΩ)
R4084	7030003400	S.RES ERJ3GEYJ 471 V (470 Ω)
R4086	7030003400	S.RES ERJ3GEYJ 471 V (470 Ω)
R4087	7030003330	S.RES ERJ3GEYJ 121 V (120 Ω)
R4088	7030003330	S.RES ERJ3GEYJ 121 V (120 Ω)
R4089	7030003290	S.RES ERJ3GEYJ 560 V (56 Ω)
R4090	7030003320	S.RES ERJ3GEYJ 101 V (100 Ω)
R4091	7030003320	S.RES ERJ3GEYJ 101 V (100 Ω)
R4092	7030003430	S.RES ERJ3GEYJ 821 V (820 Ω)
R4093	7030003300	S.RES ERJ3GEYJ 680 V (68 Ω)
R4094	7030003300	S.RES ERJ3GEYJ 680 V (68 Ω)
R4095	7030003360	S.RES ERJ3GEYJ 221 V (220 Ω)
R4096	7030003480	S.RES ERJ3GEYJ 222 V (2.2 kΩ)
R4097	7030003770	S.RES ERJ3GEYJ 564 V (560 kΩ)
R4098	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R4099	7030003620	S.RES ERJ3GEYJ 333 V (33 kΩ)
R4100	7030003280	S.RES ERJ3GEYJ 470 V (47 Ω)
R4101	7030003400	S.RES ERJ3GEYJ 471 V (470 Ω)
R4102	7030003770	S.RES ERJ3GEYJ 564 V (560 kΩ)
R4103	7030003800	S.RES ERJ3GEYJ 105 V (1 MΩ) [AUS], [UK], [USA-1] only
C4001	4030007050	S.CER C1608 CH 1H 220J-T
C4002	4030006980	S.CER C1608 CH 1H 070D-T
C4003	4030008560	S.CER C1608 CH 1H 300J-T
C4004	4030006940	S.CER C1608 CH 1H 030C-T
C4005	4030007040	S.CER C1608 CH 1H 180J-T
C4006	4030006860	S.CER C1608 JB 1H 102K-T

S.=Surface mount

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C4007	4030007050	S.CER C1608 CH 1H 220J-T	
C4008	4030007080	S.CER C1608 CH 1H 390J-T	
C4009	4030007030	S.CER C1608 CH 1H 150J-T	
C4010	4030006860	S.CER C1608 JB 1H 102K-T	
C4011	4030006860	S.CER C1608 JB 1H 102K-T	
C4012	4030007030	S.CER C1608 CH 1H 150J-T	
C4013	4030007030	S.CER C1608 CH 1H 150J-T	
C4014	4030006860	S.CER C1608 JB 1H 102K-T	
C4015	4030006860	S.CER C1608 JB 1H 102K-T	
C4016	4030006860	S.CER C1608 JB 1H 102K-T	
C4017	4030006950	S.CER C1608 CH 1H 040C-T	
C4018	4030007110	S.CER C1608 CH 1H 680J-T	
C4019	4030006860	S.CER C1608 JB 1H 102K-T	
C4020	4030007110	S.CER C1608 CH 1H 680J-T	
C4023	4030006860	S.CER C1608 JB 1H 102K-T	
C4024	4030006860	S.CER C1608 JB 1H 102K-T	
C4025	4030006860	S.CER C1608 JB 1H 102K-T	
C4027	4030007110	S.CER C1608 CH 1H 680J-T	
C4028	4030006860	S.CER C1608 JB 1H 102K-T	
C4029	4030007110	S.CER C1608 CH 1H 680J-T	
C4031	4030006860	S.CER C1608 JB 1H 102K-T	
C4032	4030006860	S.CER C1608 JB 1H 102K-T	
C4033	4030007080	S.CER C1608 CH 1H 390J-T	
C4034	4030006860	S.CER C1608 JB 1H 102K-T	
C4036	4030006980	S.CER C1608 CH 1H 070D-T	
C4037	4030006900	S.CER C1608 JB 1H 103K-T	
C4038	4030006900	S.CER C1608 JB 1H 103K-T	
C4039	4030006860	S.CER C1608 JB 1H 102K-T	
C4040	4030006900	S.CER C1608 JB 1H 103K-T	
C4042	4030006860	S.CER C1608 JB 1H 102K-T	
C4043	4030006860	S.CER C1608 JB 1H 102K-T	
C4044	4030006860	S.CER C1608 JB 1H 102K-T	
C4045	4030007040	S.CER C1608 CH 1H 180J-T	
C4046	4030006860	S.CER C1608 JB 1H 102K-T	
C4047	4030007050	S.CER C1608 CH 1H 220J-T	
C4048	4030006860	S.CER C1608 JB 1H 102K-T	
C4049	4030006860	S.CER C1608 JB 1H 102K-T	
C4050	4030006860	S.CER C1608 JB 1H 102K-T	
C4051	4030006860	S.CER C1608 JB 1H 102K-T	
C4053	4030006860	S.CER C1608 JB 1H 102K-T	
C4054	4030006990	S.CER C1608 CH 1H 080D-T	
C4055	4030006860	S.CER C1608 JB 1H 102K-T	
C4056	4030006860	S.CER C1608 JB 1H 102K-T	
C4057	4030006860	S.CER C1608 JB 1H 102K-T	
C4058	4030006860	S.CER C1608 JB 1H 102K-T	
C4059	4030007080	S.CER C1608 CH 1H 390J-T	
C4078	4510004630	S.ELE ECEV1CA100SR	
C4080	4510005860	S.ELE ECEV1HA2R2SR	
C4090	4030006860	S.CER C1608 JB 1H 102K-T	
C4092	4030006860	S.CER C1608 JB 1H 102K-T	
C4093	4030006860	S.CER C1608 JB 1H 102K-T	
C4094	4510004630	S.ELE ECEV1CA100SR	
C4095	4030006860	S.CER C1608 JB 1H 102K-T	
C4096	4030006860	S.CER C1608 JB 1H 102K-T	
C4097	4030006860	S.CER C1608 JB 1H 102K-T	
C4098	4030006860	S.CER C1608 JB 1H 102K-T	
C4099	4030007080	S.CER C1608 CH 1H 390J-T	
C4100	4030007000	S.CER C1608 CH 1H 090D-T	
C4101	4610002080	S.TRI ECR-KN010 C61X	
C4102	4550006150	S.TAN ECST1CY105R	
C4104	4550006360	S.TAN ECST1VY104R	
C4106	4030006860	S.CER C1608 JB 1H 102K-T	
C4107	4030006860	S.CER C1608 JB 1H 102K-T	
C4108	4030006860	S.CER C1608 JB 1H 102K-T	
C4109	4030006860	S.CER C1608 JB 1H 102K-T	
C4110	4030006860	S.CER C1608 JB 1H 102K-T	
C4111	4030006860	S.CER C1608 JB 1H 102K-T	
C4112	4030006860	S.CER C1608 JB 1H 102K-T	
C4113	4030007040	S.CER C1608 CH 1H 180J-T	
C4114	4030007080	S.CER C1608 CH 1H 390J-T	[EUR-1], [AUS], [USA-1] only
C4115	4030006860	S.CER C1608 JB 1H 102K-T	
C4116	4030006860	S.CER C1608 JB 1H 102K-T	
C4118	4030006860	S.CER C1608 JB 1H 102K-T	
C4119	4030006860	S.CER C1608 JB 1H 102K-T	
C4121	4030006860	S.CER C1608 JB 1H 102K-T	
C4122	4030006860	S.CER C1608 JB 1H 102K-T	
C4123	4030006860	S.CER C1608 JB 1H 102K-T	
C4124	4030006860	S.CER C1608 JB 1H 102K-T	
C4125	4030006860	S.CER C1608 JB 1H 102K-T	
C4126	4030006860	S.CER C1608 JB 1H 102K-T	
C4127	4030006860	S.CER C1608 JB 1H 102K-T	
C4129	4030006860	S.CER C1608 JB 1H 102K-T	
C4130	4030006860	S.CER C1608 JB 1H 102K-T	
C4134	4510004440	S.ELE ECEV1HA010SR	
C4135	4030006860	S.CER C1608 JB 1H 102K-T	
C4136	4030006860	S.CER C1608 JB 1H 102K-T	
C4137	4030006860	S.CER C1608 JB 1H 102K-T	
C4138	4030006860	S.CER C1608 JB 1H 102K-T	
C4139	4510004630	S.ELE ECEV1CA100SR	
C4140	4030006860	S.CER C1608 JB 1H 102K-T	

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C4141	4030006860	S.CER C1608 JB 1H 102K-T	
C4143	4030006860	S.CER C1608 JB 1H 102K-T	
C4144	4030006860	S.CER C1608 JB 1H 102K-T	
C4145	4030006860	S.CER C1608 JB 1H 102K-T	
C4146	4030006860	S.CER C1608 JB 1H 102K-T	
C4147	4030006860	S.CER C1608 JB 1H 102K-T	
C4148	4030006860	S.CER C1608 JB 1H 102K-T	
C4149	4030006860	S.CER C1608 JB 1H 102K-T	
C4150	4030006860	S.CER C1608 JB 1H 102K-T	
C4151	4030006860	S.CER C1608 JB 1H 102K-T	
C4152	4030006860	S.CER C1608 JB 1H 102K-T	
C4153	4030006860	S.CER C1608 JB 1H 102K-T	
C4155	4550006220	S.TAN TEESVA 0J 156M8L	
C4156	4030006860	S.CER C1608 JB 1H 102K-T	
C4158	4030006860	S.CER C1608 JB 1H 102K-T	
C4159	4030009510	S.CER C1608 CH 1H 010B-T	
C4160	4030009520	S.CER C1608 CH 1H 020B-T	
C4161	4030009570	S.CER C1608 CH 1H 0R3B-T	
C4162	4030009510	S.CER C1608 CH 1H 010B-T	
C4163	4030007070	S.CER C1608 CH 1H 330J-T	
C4164	4030010070	S.CER C1608 CH 1H 104J-T	
J4002	6450001300	CNR HEC0779-010030	
J4003	6450000130	CNR HSJ1102-01-540	
J4004	6450001060	CNR HSJ1493-01-010	
J4005	6510007090	CNR PI28A-04M	
J4006	6510017720	S.CNR IL-FPR-30S-VF-E1500	
W4001	7030003860	S.RES ERJ3GE JPW V	
W4002	7030003860	S.RES ERJ3GE JPW V	
W4003	7030003860	S.RES ERJ3GE JPW V	
W4004	7030003860	S.RES ERJ3GE JPW V	
W4005	7030003860	S.RES ERJ3GE JPW V	
W4006	7030003860	S.RES ERJ3GE JPW V	
W4007	7120000380	JMP JPW 01 R-01	
W4011	8900005320	FFC OPC-519 (N:30 L:55)	
W4012	7030003860	S.RES ERJ3GE JPW V	
W4013	7030003860	S.RES ERJ3GE JPW V	
W4015	7030003860	S.RES ERJ3GE JPW V	
EP4002	8950004480	TUB SR tube 2.9 X 4 CP (L=1M)	[USA-1] only

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC5001	1110003490	S.IC TA31136FN (D,EL)	
IC5002	1130005640	S.IC TC4W53F (TE12L)	
IC5003	1110002330	IC TA7368P	
IC5004	1110003670	S.IC BA3308F-E2	
IC5005	1130007650	S.IC TC75W51FU (TE12L)	
IC5006	1180002250	S.IC S-812C50AMC-C3E-T2	
IC5007	1110002860	S.IC TA75S393F (TE85R)	
IC5008	1130004200	S.IC TC4S66F (TE85R)	
Q5002	1530002600	S.TR 2SC4215-O (TE85R)	
Q5003	1530002600	S.TR 2SC4215-O (TE85R)	
Q5004	1530003280	S.TR 2SC4211-6-TL	
Q5005	1530003280	S.TR 2SC4211-6-TL	
Q5006	1520000650	S.TR 2SB1201-S-TL	
Q5007	1530003280	S.TR 2SC4211-6-TL	
Q5008	1590003270	S.TR UNR9210J-(TX)	
Q5009	1590003270	S.TR UNR9210J-(TX)	
Q5010	1540000520	S.TR 2SD1819A (TX) R	[AUS], [UK], [USA-1] only
Q5013	1590001980	S.TR XP4315 (TX)	
Q5014	1520000460	S.TR 2SB1132 T100 R	
Q5015	1530003280	S.TR 2SC4211-6-TL	
Q5016	1520000460	S.TR 2SB1132 T100 R	
Q5017	1530003280	S.TR 2SC4211-6-TL	
Q5018	1590003410	S.TR UNR9110J-(TX)	
Q5019	1520000460	S.TR 2SB1132 T100 R	
Q5020	1530003280	S.TR 2SC4211-6-TL	
Q5026	1530003280	S.TR 2SC4211-6-TL	
Q5027	1510000880	S.TR 2SA1622-6-TL	
Q5028	1520000460	S.TR 2SB1132 T100 R	
Q5029	1590003280	S.TR UNR9211J-(TX)	
Q5030	1530002600	S.TR 2SC4215-O (TE85R)	
Q5031	1540000520	S.TR 2SD1819A (TX) R	[AUS], [UK], [USA-1] only
D5003	1790001280	S.DIO MA111 (TX)	
D5005	1790001280	S.DIO MA111 (TX)	

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION
D5006	1790001280	S.DIO MA111 (TX)
D5007	1790001280	S.DIO MA111 (TX)
D5008	1790001280	S.DIO MA111 (TX)
D5009	1790000860	S.DIO MA133 (TX)
D5010	1790001280	S.DIO MA111 (TX)
D5011	1790001330	S.ZEN MA8036-L (TX)
D5013	1790001280	S.DIO MA111 (TX)
D5014	1790001280	S.DIO MA111 (TX)
D5015	1790000860	S.DIO MA133 (TX) [AUS], [UK], [USA-1] only
FI5001	2020001070	CER CFWLA455KDFA-B0 (CFWS455D)
X5001	6050009110	XTL CR-485 (35.345 MHz)
X5002	6070000130	DCR CDBLB455KCAY24-B0
R5001	7030003480	S.RES ERJ3GEYJ 222 V (2.2 kΩ)
R5008	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R5009	7030003500	S.RES ERJ3GEYJ 332 V (3.3 kΩ)
R5010	7030003520	S.RES ERJ3GEYJ 472 V (4.7 kΩ)
R5011	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R5012	7030003500	S.RES ERJ3GEYJ 332 V (3.3 kΩ)
R5013	7030003730	S.RES ERJ3GEYJ 274 V (270 kΩ)
R5014	7030003520	S.RES ERJ3GEYJ 472 V (4.7 kΩ)
R5015	7030003720	S.RES ERJ3GEYJ 224 V (220 kΩ)
R5016	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R5017	7030003740	S.RES ERJ3GEYJ 334 V (330 kΩ)
R5018	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R5020	7030003520	S.RES ERJ3GEYJ 472 V (4.7 kΩ)
R5021	7030003630	S.RES ERJ3GEYJ 393 V (39 kΩ)
R5023	7030003310	S.RES ERJ3GEYJ 820 V (82 Ω)
R5024	7030003200	S.RES ERJ3GEYJ 100 V (10 Ω)
R5025	7030003420	S.RES ERJ3GEYJ 681 V (680 Ω)
R5026	7030003400	S.RES ERJ3GEYJ 471 V (470 Ω)
R5027	7030003590	S.RES ERJ3GEYJ 183 V (18 kΩ)
R5029	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R5030	7030003650	S.RES ERJ3GEYJ 563 V (56 kΩ) [AUS], [UK], [USA-1] only
R5031	7030003650	S.RES ERJ3GEYJ 563 V (56 kΩ)
R5035	7030003460	S.RES ERJ3GEYJ 152 V (1.5 kΩ)
R5036	7030003400	S.RES ERJ3GEYJ 471 V (470 Ω)
R5037	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R5043	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R5044	7030003510	S.RES ERJ3GEYJ 392 V (3.9 kΩ)
R5045	7030003640	S.RES ERJ3GEYJ 473 V (47 kΩ)
R5047	7310004530	S.TRI EVM-2WSX80 B14 (103)
R5049	7030003270	S.RES ERJ3GEYJ 390 V (39 Ω)
R5050	7030003580	S.RES ERJ3GEYJ 153 V (15 kΩ)
R5051	7030003800	S.RES ERJ3GEYJ 105 V (1 MΩ)
R5052	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ) [AUS], [UK], [USA-1] only
R5053	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R5054	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R5055	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R5058	7030003630	S.RES ERJ3GEYJ 393 V (39 kΩ)
R5059	7030003630	S.RES ERJ3GEYJ 393 V (39 kΩ)
R5060	7030003630	S.RES ERJ3GEYJ 393 V (39 kΩ)
R5061	7030003400	S.RES ERJ3GEYJ 471 V (470 Ω)
R5062	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R5063	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R5064	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R5065	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R5066	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R5070	7030003480	S.RES ERJ3GEYJ 222 V (2.2 kΩ)
R5071	7030003480	S.RES ERJ3GEYJ 222 V (2.2 kΩ)
R5072	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R5074	7030003650	S.RES ERJ3GEYJ 563 V (56 kΩ)
R5075	7030003640	S.RES ERJ3GEYJ 473 V (47 kΩ)
R5076	7030003480	S.RES ERJ3GEYJ 222 V (2.2 kΩ)
R5077	7030003520	S.RES ERJ3GEYJ 472 V (4.7 kΩ)
R5078	7030003630	S.RES ERJ3GEYJ 393 V (39 kΩ)
R5082	7210002670	VAR RV-298 (TP96D00N15F10KB10KA)
R5083	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R5084	7030003440	S.RES ERJ3GEYJ 102 V (1 kΩ)
R5085	7030003600	S.RES ERJ3GEYJ 223 V (22 kΩ)
R5086	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R5087	7310004590	S.TRI EVM-2WSX80 B13 (102)
R5088	7030003440	S.RES ERJ3GEYJ 102 V (1 kΩ)
R5089	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R5090	7030003440	S.RES ERJ3GEYJ 102 V (1 kΩ)
R5091	7030003620	S.RES ERJ3GEYJ 333 V (33 kΩ)
R5092	7030000170	S.RES MCR10EZHJ 18 Ω (180)
R5093	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)
R5097	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R5098	7310004670	S.TRI EVM-2WSX80 B55 (504)
R5099	7030003760	S.RES ERJ3GEYJ 474 V (470 kΩ)
R5100	7030003760	S.RES ERJ3GEYJ 474 V (470 kΩ)
R5101	7030003720	S.RES ERJ3GEYJ 224 V (220 kΩ)
R5102	7030003320	S.RES ERJ3GEYJ 101 V (100 Ω)
R5103	7030003500	S.RES ERJ3GEYJ 332 V (3.3 kΩ)

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION
R5104	7030003540	S.RES ERJ3GEYJ 682 V (6.8 kΩ)
R5105	7030003700	S.RES ERJ3GEYJ 154 V (150 kΩ)
R5106	7030003880	S.RES ERJ3GEYJ 244 V (240 kΩ) [AUS], [UK], [USA-1] only
R5107	7030003700	S.RES ERJ3GEYJ 154 V (150 kΩ)
R5108	7030003460	S.RES ERJ3GEYJ 152 V (1.5 kΩ)
R5112	7030003700	S.RES ERJ3GEYJ 154 V (150 kΩ)
R5113	7030003600	S.RES ERJ3GEYJ 223 V (22 kΩ) [AUS], [UK], [USA-1] only
R5114	7310004540	S.TRI EVM-2WSX80 BQ4 (473)
R5115	7030003590	S.RES ERJ3GEYJ 183 V (18 kΩ) [AUS], [UK], [USA-1] only
R5116	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)
R5117	7030003340	S.RES ERJ3GEYJ 151 V (150 Ω)
R5118	7030003760	S.RES ERJ3GEYJ 474 V (470 kΩ)
R5120	7510001000	S.TMR TBPS1R154K475H5Q [AUS], [UK], [USA-1] only
R5121	7030003760	S.RES ERJ3GEYJ 474 V (470 kΩ) [AUS], [UK], [USA-1] only
R5123	7510000990	S.TMR TBPS1R682K440H5Q
R5124	7030003460	S.RES ERJ3GEYJ 152 V (1.5 kΩ)
R5125	7030003710	S.RES ERJ3GEYJ 184 V (180 kΩ)
R5126	7030003710	S.RES ERJ3GEYJ 184 V (180 kΩ)
R5127	7030003800	S.RES ERJ3GEYJ 105 V (1 MΩ) [AUS], [UK], [USA-1] only
R5128	7030003660	S.RES ERJ3GEYJ 683 V (68 kΩ)
R5129	7030003650	S.RES ERJ3GEYJ 563 V (56 kΩ) [AUS], [UK], [USA-1] only
R5130	7030003770	S.RES ERJ3GEYJ 564 V (560 kΩ) [AUS], [UK], [USA-1] only
C5001	4030007030	S.CER C1608 CH 1H 150J-T
C5002	4030007030	S.CER C1608 CH 1H 150J-T
C5004	4030006900	S.CER C1608 JB 1H 103K-T
C5005	4030006860	S.CER C1608 JB 1H 102K-T
C5006	4030006900	S.CER C1608 JB 1H 103K-T
C5007	4030006900	S.CER C1608 JB 1H 103K-T
C5008	4030006900	S.CER C1608 JB 1H 103K-T
C5010	4030006870	S.CER C1608 JB 1H 222K-T
C5011	4030006900	S.CER C1608 JB 1H 103K-T
C5012	4030006860	S.CER C1608 JB 1H 102K-T
C5013	4510004440	S.ELE ECEV1HA010SR
C5014	4510005810	S.ELE ECEV1HAR47R
C5015	4030006850	S.CER C1608 JB 1H 471K-T
C5016	4510005870	S.ELE ECEV1HA3R3SR
C5017	4510005320	S.ELE ECEV0JA101SP
C5018	4030008920	S.CER C1608 JB 1H 473K-T
C5020	4510005370	S.ELE ECEV1AA221P
C5021	4510005860	S.ELE ECEV1HA2R2SR
C5024	4510005740	S.ELE ECEV1HAR22SR
C5025	4510004630	S.ELE ECEV1CA100SR
C5026	4510005810	S.ELE ECEV1HAR47R
C5030	4030007130	S.CER C1608 CH 1H 101J-T
C5031	4030006860	S.CER C1608 JB 1H 102K-T
C5032	4030006860	S.CER C1608 JB 1H 102K-T
C5033	4030006900	S.CER C1608 JB 1H 103K-T
C5034	4030006900	S.CER C1608 JB 1H 103K-T
C5040	4030008920	S.CER C1608 JB 1H 473K-T [AUS], [UK], [USA-1] only
C5043	4550006220	S.TAN TEESVA 0J 156M8L
C5045	4510005860	S.ELE ECEV1HA2R2SR
C5046	4510004630	S.ELE ECEV1CA100SR
C5048	4030008650	S.CER C1608 JB 1H 332K-T
C5049	4030006900	S.CER C1608 JB 1H 103K-T
C5050	4030007160	S.CER C1608 CH 1H 181J-T
C5051	4550006150	S.TAN ECST1CY105R
C5052	4510005630	S.ELE ECEV1EA330SP
C5053	4030006860	S.CER C1608 JB 1H 102K-T
C5054	4030006860	S.CER C1608 JB 1H 102K-T
C5055	4510005430	S.ELE ECEV0JA220SR
C5056	4510005430	S.ELE ECEV0JA220SR
C5057	4510005430	S.ELE ECEV0JA220SR
C5058	4510005430	S.ELE ECEV0JA220SR
C5059	4510005430	S.ELE ECEV0JA220SR
C5060	4030006900	S.CER C1608 JB 1H 103K-T
C5062	4510004630	S.ELE ECEV1CA100SR
C5063	4030006900	S.CER C1608 JB 1H 103K-T
C5064	4030006860	S.CER C1608 JB 1H 102K-T
C5066	4030006900	S.CER C1608 JB 1H 103K-T
C5067	4030006900	S.CER C1608 JB 1H 103K-T
C5068	4030006860	S.CER C1608 JB 1H 102K-T
C5069	4030006860	S.CER C1608 JB 1H 102K-T
C5070	4030006860	S.CER C1608 JB 1H 102K-T
C5071	4030006860	S.CER C1608 JB 1H 102K-T
C5072	4550006370	S.TAN ECST0JX226R
C5073	4030006860	S.CER C1608 JB 1H 102K-T
C5074	4030006860	S.CER C1608 JB 1H 102K-T
C5076	4030006880	S.CER C1608 JB 1H 472K-T [AUS], [UK], [USA-1] only
C5077	4510004630	S.ELE ECEV1CA100SR
C5079	4030006850	S.CER C1608 JB 1H 471K-T
C5080	4030010070	S.CER C1608 JB 1H 471K-T
C5081	4030006900	S.CER C1608 JB 1H 103K-T
C5082	4550006220	S.TAN TEESVA 0J 156M8L
C5083	4550006360	S.TAN ECST1VY104R
C5084	4030010070	S.ELE ECEV1CA101P
C5085	4510005820	S.ELE ECEV1CA101P
C5086	4510004440	S.ELE ECEV1HA010SR
C5088	4030006860	S.CER C1608 JB 1H 102K-T

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION
C5089	4030006860	S.CER C1608 JB 1H 102K-T
C5090	4510004650	S.ELE ECEV1EA4R7SR
J5001	6510017700	S.CNR IL-WX-18PB-VF84-B-E900
J5002	6510017700	S.CNR IL-WX-18PB-VF84-B-E900
J5003	6510017730	S.CNR IL-FPR-30S-HF-E3000
J5005	6510007080	CNR PI28A-02M
S5001	2250000240	SW SW-157 (RH09710HH)
W5002	7030003860	S.RES ERJ3GE JPW V
W5008	7030003860	S.RES ERJ3GE JPW V

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC6001	1140004860	S.IC HD404829B96TF	
IC6002	1190000260	S.IC 24LC08BTI/SN	
IC6003	1110005930	S.IC S-80845CLMC-B66-T2	
IC6004	1130003920	S.IC TC4S69F (TE85R)	
IC6105	1110003780	S.IC NJM2902V-TE1	
IC6106	1110003790	S.IC NJM2903V-TE1	
IC6107	1110003800	S.IC NJM2904V-TE1	
IC6108	1110003790	S.IC NJM2903V-TE1	
Q6001	1590001840	S.TR XN4601 (TX)	
Q6002	1530003280	S.TR 2SC4211-6-TL	
Q6003	1530003280	S.TR 2SC4211-6-TL	
Q6004	1520000460	S.TR 2SB1132 T100 R	
Q6005	1530003280	S.TR 2SC4211-6-TL	
Q6006	1590003280	S.TR UNR9211J-(TX)	
Q6007	1510000880	S.TR 2SA1622-6-TL	
Q6108	1590001980	S.TR XP4315 (TX)	
Q6109	1530003280	S.TR 2SC4211-6-TL	
Q6110	1590003290	S.TR UNR9213J-(TX)	
D6001	1790001280	S.DIO MA111 (TX)	
D6002	1790001280	S.DIO MA111 (TX)	
D6003	1790001280	S.DIO MA111 (TX)	
D6004	1790001280	S.DIO MA111 (TX)	
D6005	1790001200	S.DIO MA6S121 (TX)	
D6008	1790000810	S.DIO MA132A (TX)	
D6009	1160000050	S.DIO DAP202U T106	[IC-A22E] only
D6014	1790000990	S.ZEN MA8051-H (TX)	
D6115	1790001280	S.DIO MA111 (TX)	
D6116	1790001280	S.DIO MA111 (TX)	
X6001	6050007390	XTL CR-331 (3.9744 MHz)	
R6001	7030003640	S.RES ERJ3GEYJ 473 V (47 kΩ)	
R6002	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)	
R6003	7030003590	S.RES ERJ3GEYJ 183 V (18 kΩ)	
R6004	7030003630	S.RES ERJ3GEYJ 393 V (39 kΩ)	
R6005	7030003740	S.RES ERJ3GEYJ 334 V (330 kΩ)	
R6006	7030004870	S.RES ERJ3GEYF 224 V (220 kΩ)	
R6007	7030004810	S.RES ERJ3GEYF 433 V (43 kΩ)	
R6008	7030003480	S.RES ERJ3GEYJ 222 V (2.2 kΩ)	
R6009	7030003510	S.RES ERJ3GEYJ 392 V (3.9 kΩ)	
R6010	7030003430	S.RES ERJ3GEYJ 821 V (820 Ω)	
R6011	7030003430	S.RES ERJ3GEYJ 821 V (820 Ω)	
R6012	7030003380	S.RES ERJ3GEYJ 331 V (330 Ω)	
R6013	7030003640	S.RES ERJ3GEYJ 473 V (47 kΩ)	
R6016	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)	
R6017	7030003640	S.RES ERJ3GEYJ 473 V (47 kΩ)	
R6018	7030003540	S.RES ERJ3GEYJ 682 V (6.8 kΩ)	
R6019	7030003620	S.RES ERJ3GEYJ 333 V (33 kΩ)	
R6020	7030003590	S.RES ERJ3GEYJ 183 V (18 kΩ)	
R6021	7030003620	S.RES ERJ3GEYJ 333 V (33 kΩ)	
R6022	7030003800	S.RES ERJ3GEYJ 105 V (1 MΩ)	
R6023	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)	
R6024	7030003800	S.RES ERJ3GEYJ 105 V (1 MΩ)	
R6025	7410000590	S.ARY EXB-V4V 473JV (47 kΩ)	
R6026	7030003240	S.RES ERJ3GEYJ 220 V (22 Ω)	
R6027	7030003590	S.RES ERJ3GEYJ 183 V (18 kΩ)	
R6101	7030003720	S.RES ERJ3GEYJ 224 V (220 kΩ)	
R6125	7030003650	S.RES ERJ3GEYJ 563 V (56 kΩ)	

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R6126	7030003620	S.RES ERJ3GEYJ 333 V (33 kΩ)	
R6127	7030003720	S.RES ERJ3GEYJ 224 V (220 kΩ)	
R6128	7030003540	S.RES ERJ3GEYJ 682 V (6.8 kΩ)	
R6129	7030003700	S.RES ERJ3GEYJ 154 V (150 kΩ)	
R6130	7030003470	S.RES ERJ3GEYJ 182 V (1.8 kΩ)	
R6131	7030003630	S.RES ERJ3GEYJ 393 V (39 kΩ)	
R6132	7030003640	S.RES ERJ3GEYJ 473 V (47 kΩ)	
R6133	7030003720	S.RES ERJ3GEYJ 224 V (220 kΩ)	
R6134	7030003630	S.RES ERJ3GEYJ 393 V (39 kΩ)	
R6135	7310004540	S.TRI EVM-2WSX80 BQ4 (473)	
R6136	7030003750	S.RES ERJ3GEYJ 394 V (390 kΩ)	
R6137	7030003740	S.RES ERJ3GEYJ 334 V (330 kΩ)	
R6138	7030003640	S.RES ERJ3GEYJ 473 V (47 kΩ)	
R6139	7030003590	S.RES ERJ3GEYJ 183 V (18 kΩ)	
R6140	7030003520	S.RES ERJ3GEYJ 472 V (4.7 kΩ)	
R6141	7510000980	S.TMR TBPS1R333K460H5Q	
R6142	7030003620	S.RES ERJ3GEYJ 333 V (33 kΩ)	
R6143	7030003720	S.RES ERJ3GEYJ 224 V (220 kΩ)	
R6144	7030003580	S.RES ERJ3GEYJ 153 V (15 kΩ)	
R6145	7030003720	S.RES ERJ3GEYJ 224 V (220 kΩ)	
R6146	7030003720	S.RES ERJ3GEYJ 224 V (220 kΩ)	
R6147	7030003590	S.RES ERJ3GEYJ 183 V (18 kΩ)	
R6148	7030003710	S.RES ERJ3GEYJ 184 V (180 kΩ)	
R6149	7030003590	S.RES ERJ3GEYJ 183 V (18 kΩ)	
R6150	7310004630	S.TRI EVM-2WSX80 B24 (203)	
R6151	7310004670	S.TRI EVM-2WSX80 B55 (504)	
R6153	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)	
R6154	7030003680	S.RES ERJ3GEYJ 104 V (100 kΩ)	
R6155	7030003640	S.RES ERJ3GEYJ 473 V (47 kΩ)	
R6156	7030003400	S.RES ERJ3GEYJ 471 V (470 Ω)	
R6159	7030003520	S.RES ERJ3GEYJ 472 V (4.7 kΩ)	
R6160	7030003520	S.RES ERJ3GEYJ 472 V (4.7 kΩ)	
R6161	7030003520	S.RES ERJ3GEYJ 472 V (4.7 kΩ)	
R6162	7030003520	S.RES ERJ3GEYJ 472 V (4.7 kΩ)	
R6163	7030003520	S.RES ERJ3GEYJ 472 V (4.7 kΩ)	
R6164	7030003520	S.RES ERJ3GEYJ 472 V (4.7 kΩ)	
C6001	4550006370	S.TAN ECST0JX226R	
C6002	4550006530	S.TAN ECST0JY685R	
C6003	4030007030	S.CER C1608 CH 1H 150J-T	
C6004	4030007030	S.CER C1608 CH 1H 150J-T	
C6005	4030010070	S.CER C1608 CH 1H 104J-T	
C6006	4030010070	S.CER C1608 CH 1H 104J-T	
C6007	4030010070	S.CER C1608 CH 1H 104J-T	
C6008	4030010070	S.CER C1608 CH 1H 104J-T	
C6009	4030006900	S.CER C1608 JB 1H 103K-T	
C6011	4030006860	S.CER C1608 JB 1H 102K-T	
C6112	4550006200	S.TAN ECST0JY106R	
C6113	4550006150	S.TAN ECST1CY105R	
C6114	4550006200	S.TAN ECST0JY106R	
C6115	4030010070	S.CER C1608 CH 1H 104J-T	
C6116	4030006860	S.CER C1608 JB 1H 102K-T	
C6117	4030006860	S.CER C1608 JB 1H 102K-T	
C6118	4550006360	S.TAN ECST1VY104R	
C6119	4030006900	S.CER C1608 JB 1H 103K-T	
C6120	4030010070	S.CER C1608 CH 1H 104J-T	
C6121	4550006340	S.TAN ECST1AY335R	
C6122	4550006360	S.TAN ECST1VY104R	
C6123	4550006360	S.TAN ECST1VY104R	
C6124	4030006850	S.CER C1608 JB 1H 471K-T	
C6125	4550006360	S.TAN ECST1VY104R	
C6126	4550006360	S.TAN ECST1VY104R	
C6128	4550006360	S.TAN ECST1VY104R	
C6129	4030006880	S.CER C1608 JB 1H 472K-T	
C6130	4550006370	S.TAN ECST0JX226R	
C6131	4550006200	S.TAN ECST0JY106R	
J6001	6510017710	S.CNR IL-WX-18SB-VF-H4.75-B-E800	
J6002	6510017710	S.CNR IL-WX-18SB-VF-H4.75-B-E800	
J6003	6510017900	CNR 3-174642-6	
DS6001	5030002100	LCD TTR5680 UPFDHW	
DS6002	5010000120	S.LED LN1371G-(TR)	
DS6003	5010000120	S.LED LN1371G-(TR)	
DS6004	5010000120	S.LED LN1371G-(TR)	
DS6005	5010000120	S.LED LN1371G-(TR)	
DS6006	5040001920	S.LED SML-110MT T86	
DS6007	5040001920	S.LED SML-110MT T86	
MC6001	7700002310	MIC EM-140	
W6101	7030003860	S.RES ERJ3GE JPW V	
EP6002	8930045060	LCT SRCN-1541-SP-N-W	
EP6003	8950004480	TUB SR tube 2.9 X 4 CP (L=1M)	[USA-1] only

S.=Surface mount

[VCO UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
Q7001	1530002920	S.TR 2SC4226-T1 R25	
Q7002	1530002920	S.TR 2SC4226-T1 R25	
Q7003	1530002560	S.TR 2SC4403-3-TL	
D7001	1790001290	S.VCP MA304 (TX)	
D7002	1790000620	S.DIO MA77 (TX)	
L7001	6200001520	S.COL MLF2012D R82K-T	
L7002	6110002990	COL LA-487	
L7003	6200001630	S.COL ELJNC R10K-F	
R7001	7030003550	S.RES ERJ3GEYJ 822 V (8.2 kΩ)	
R7002	7030003360	S.RES ERJ3GEYJ 221 V (220 Ω)	
R7003	7030003550	S.RES ERJ3GEYJ 822 V (8.2 kΩ)	
R7004	7030003360	S.RES ERJ3GEYJ 221 V (220 Ω)	
R7005	7030003320	S.RES ERJ3GEYJ 101 V (100 Ω)	
R7006	7030003610	S.RES ERJ3GEYJ 273 V (27 kΩ)	
R7007	7030003320	S.RES ERJ3GEYJ 101 V (100 Ω)	
R7008	7030003720	S.RES ERJ3GEYJ 224 V (220 kΩ)	
R7009	7030003560	S.RES ERJ3GEYJ 103 V (10 kΩ)	
C7001	4030007090	S.CER C1608 CH 1H 470J-T	[USA-1] only
C7002	4030009650	S.CER C1608 CH 1H 240J-T	
C7004	4030009540	S.CER C1608 CH 1H 1R5B-T	
C7005	4030009540	S.CER C1608 CH 1H 1R5B-T	
C7006	4030006860	S.CER C1608 JB 1H 102K-T	
C7007	4030006860	S.CER C1608 JB 1H 102K-T	
C7008	4030009500	S.CER C1608 CH 1H 0R5B-T	
C7009	4030007040	S.CER C1608 CH 1H 180J-T	
C7010	4030006860	S.CER C1608 JB 1H 102K-T	
C7011	4030006860	S.CER C1608 JB 1H 102K-T	
C7012	4030006860	S.CER C1608 JB 1H 102K-T	
C7013	4030006860	S.CER C1608 JB 1H 102K-T	
C7014	4030006860	S.CER C1608 JB 1H 102K-T	
J7001	6910008020	CNR IPS-1323	
J7002	6910008020	CNR IPS-1323	
J7003	6910008020	CNR IPS-1323	
J7004	6910008020	CNR IPS-1323	

[PTT UNIT]

REF NO.	ORDER NO.	DESCRIPTION
J9001	6510018110	S.CNR 3-175637-6
S9001	2260002160	S.SW EVQ-PLM A15
S9002	2260001680	S.SW SKQDPB
S9003	2260001680	S.SW SKQDPB

S.=Surface mount

• IC-A3/E

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC4001	1130007610	S.IC	µPD3140GS-E1 (DS8)
IC4002	1110003680	IC	M68721/SC1303
Q4001	1580000650	S.FET	3SK230-T2 U1B
Q4002	1580000400	S.FET	3SK151-Y (TE85L)
Q4003	1530002600	S.TR	2SC4215-O (TE85R)
Q4004	1530002560	S.TR	2SC4403-3-TL
Q4005	1530002560	S.TR	2SC4403-3-TL
Q4006	1530002560	S.TR	2SC4403-3-TL
Q4007	1530003340	S.TR	2SC3357-T1 RF
Q4010	1590001160	S.TR	XP1401-(TX) .AB
Q4011	1590001140	S.TR	UN9210 (TX)
Q4011	1590003270	S.TR	UNR9210J-(TX)
Q4012	1530003280	S.TR	2SC4211-6-TL
Q4013	1520000460	S.TR	2SB1132 T100 R
Q4014	1530003280	S.TR	2SC4211-6-TL
Q4015	1530002560	S.TR	2SC4403-3-TL
Q4016	1590001140	S.TR	UN9210 (TX)
Q4016	1590003270	S.TR	UNR9210J-(TX)
Q4017	1590001130	S.TR	UN9110 (TX)
Q4017	1590003410	S.TR	UNR9110J-(TX)
Q4018	1590001650	S.TR	XP4601 (TX)
Q4019	1590001140	S.TR	UN9210 (TX)
Q4019	1590003270	S.TR	UNR9210J-(TX)
Q4020	1590001650	S.TR	XP4601 (TX)
Q4021	1530002850	S.TR	2SC4116-BL (TE85R)
D4001	1790000620	S.DIO	MA77 (TX)
D4002	1790000620	S.DIO	MA77 (TX)
D4003	1790000620	S.DIO	MA77 (TX)
D4004	1790000660	S.DIO	MA728 (TX)
D4005	1790000660	S.DIO	MA728 (TX)
D4006	1790001290	S.VCP	MA304 (TX)
D4007	1790001290	S.VCP	MA304 (TX)
D4008	1790001290	S.VCP	MA304 (TX)
D4009	1790001290	S.VCP	MA304 (TX)
D4010	1790000620	S.DIO	MA77 (TX)
D4012	1750000460	S.DIO	1SV246-TL
D4013	1750000460	S.DIO	1SV246-TL
D4016	1790001280	S.DIO	MA111 (TX)
D4017	1730002300	S.ZEN	MA8082-M (TX)
D4018	1790000850	S.DIO	MA132WK (TX)
D4019	1790000860	S.DIO	MA133 (TX)
D4020	1790001030	S.DIO	SB30-03P-TD
D4021	1790000620	S.DIO	MA77 (TX)
D4022	1790001330	S.ZEN	MA8036-L (TX)
D4025	1790001030	S.DIO	SB30-03P-TD
FI4001	2010001640	FIL	FL-203
X4001	6050008730	XTL	CR-456
L4001	6200002820	S.COL	LQW31HN47NJ01L (LQN 1A 47NJ04)
L4002	6200002390	S.COL	LQW31HN64NJ01L (LQN 1A 64NJ04)
L4003	6200002390	S.COL	LQW31HN64NJ01L (LQN 1A 64NJ04)
L4004	6200002380	S.COL	LQW31HN56NJ01L (LQN 1A 56NJ04)
L4005	6200002820	S.COL	LQW31HN47NJ01L (LQN 1A 47NJ04)
L4006	6200002380	S.COL	LQW31HN56NJ01L (LQN 1A 56NJ04)
L4007	6200001520	S.COL	MLF2012D R82K-T
L4008	6130001740	COL	LB-170
L4009	6130001750	COL	LB-172
L4010	6130002850	COL	LB-326
L4011	6130001750	COL	LB-172
L4012	6150004390	S.COL	LS-492
L4014	6200001920	S.COL	ELJNC R15K-F
L4015	6200001920	S.COL	ELJNC R15K-F
L4016	6200001630	S.COL	ELJNC R10K-F
L4017	6200002390	S.COL	LQW31HN64NJ01L (LQN 1A 64NJ04)
L4025	6200002190	S.COL	MLF2012A 4R7K-T
L4027	6200002190	S.COL	MLF2012A 4R7K-T
L4028	6200003550	S.COL	MLF1608A 4R7K-T
R4001	7030003320	S.RES	ERJ3GEYJ 101 V (100 Ω)
R4004	7030003370	S.RES	ERJ3GEYJ 271 V (270 Ω)
R4005	7030003370	S.RES	ERJ3GEYJ 271 V (270 Ω)
R4006	7030003620	S.RES	ERJ3GEYJ 333 V (33 kΩ)
R4007	7030003720	S.RES	ERJ3GEYJ 224 V (220 kΩ)
R4008	7030003720	S.RES	ERJ3GEYJ 224 V (220 kΩ)
R4009	7030003720	S.RES	ERJ3GEYJ 224 V (220 kΩ)
R4010	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)
R4011	7030003640	S.RES	ERJ3GEYJ 473 V (47 kΩ)

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION		
R4012	7030003280	S.RES	ERJ3GEYJ 470 V (47 Ω)	
R4013	7030003280	S.RES	ERJ3GEYJ 470 V (47 Ω)	
R4014	7030003720	S.RES	ERJ3GEYJ 224 V (220 kΩ)	
R4015	7030003720	S.RES	ERJ3GEYJ 224 V (220 kΩ)	
R4016	7030003760	S.RES	ERJ3GEYJ 474 V (470 kΩ)	[AUS], [UK]
	7030003780	S.RES	ERJ3GEYJ 684 V (680 kΩ)	[EUR], [EUR-1]
R4017	7030003660	S.RES	ERJ3GEYJ 683 V (68 kΩ)	[IC-A3]
	7030003670	S.RES	ERJ3GEYJ 823 V (82 kΩ)	[AUS], [UK]
	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	[EUR], [EUR-1]
R4018	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R4019	7030003200	S.RES	ERJ3GEYJ 100 V (10 Ω)	
R4020	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R4021	7030003320	S.RES	ERJ3GEYJ 101 V (100 Ω)	
R4022	7030003390	S.RES	ERJ3GEYJ 391 V (390 Ω)	
R4023	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	[IC-A3], [EUR], [EUR-1]
	7030003770	S.RES	ERJ3GEYJ 564 V (560 kΩ)	[AUS], [UK]
R4024	7030003480	S.RES	ERJ3GEYJ 222 V (2.2 kΩ)	
R4025	7030003500	S.RES	ERJ3GEYJ 332 V (3.3 kΩ)	
R4027	7030003220	S.RES	ERJ3GEYJ 150 V (15 Ω)	
R4028	7030003220	S.RES	ERJ3GEYJ 150 V (15 Ω)	
R4029	7030003460	S.RES	ERJ3GEYJ 152 V (1.5 kΩ)	[AUS], [UK]
	7030003500	S.RES	ERJ3GEYJ 332 V (3.3 kΩ)	[IC-A3], [EUR], [EUR-1]
R4030	7030003610	S.RES	ERJ3GEYJ 273 V (27 kΩ)	
R4031	7030003340	S.RES	ERJ3GEYJ 151 V (150 Ω)	
R4032	7030003610	S.RES	ERJ3GEYJ 273 V (27 kΩ)	
R4033	7030003340	S.RES	ERJ3GEYJ 151 V (150 Ω)	
R4034	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R4035	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R4036	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R4037	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R4039	7030003620	S.RES	ERJ3GEYJ 333 V (33 kΩ)	
R4040	7030003580	S.RES	ERJ3GEYJ 153 V (15 kΩ)	
R4041	7030003360	S.RES	ERJ3GEYJ 221 V (220 Ω)	
R4042	7030003440	S.RES	ERJ3GEYJ 102 V (1 kΩ)	
R4043	7030003440	S.RES	ERJ3GEYJ 102 V (1 kΩ)	
R4044	7030003480	S.RES	ERJ3GEYJ 222 V (2.2 kΩ)	
R4045	7030003440	S.RES	ERJ3GEYJ 102 V (1 kΩ)	
R4047	7030003290	S.RES	ERJ3GEYJ 560 V (56 Ω)	
R4054	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R4056	7030003660	S.RES	ERJ3GEYJ 683 V (68 kΩ)	
R4057	7310003600	S.TRI	EVM-1XSX50 B54 (503)	[IC-A3], [EUR], [UK]
	7310004660	S.TRI	EVM-2WSX80 B54 (503)	[EUR-1], [AUS]
R4058	7030003600	S.RES	ERJ3GEYJ 223 V (22 kΩ)	
R4059	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R4060	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R4061	7030003650	S.RES	ERJ3GEYJ 563 V (56 kΩ)	
R4064	7030003440	S.RES	ERJ3GEYJ 102 V (1 kΩ)	
R4065	7030003480	S.RES	ERJ3GEYJ 222 V (2.2 kΩ)	
R4066	7030003440	S.RES	ERJ3GEYJ 102 V (1 kΩ)	
R4067	7310003610	S.TRI	EVM-1XSX50 B14 (103)	[IC-A3], [EUR], [UK]
	7310004530	S.TRI	EVM-2WSX80 B14 (103)	[EUR-1], [AUS]
R4068	7310003610	S.TRI	EVM-1XSX50 B14 (103)	[IC-A3], [EUR], [UK]
	7310004530	S.TRI	EVM-2WSX80 B14 (103)	[EUR-1], [AUS]
R4069	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R4070	7030003420	S.RES	ERJ3GEYJ 681 V (680 Ω)	
R4071	7030003640	S.RES	ERJ3GEYJ 473 V (47 kΩ)	[EUR], [EUR-1]
	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	[IC-A3], [AUS], [UK]
R4072	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R4073	7030003360	S.RES	ERJ3GEYJ 221 V (220 Ω)	
R4079	7030003640	S.RES	ERJ3GEYJ 473 V (47 kΩ)	
R4080	7030003760	S.RES	ERJ3GEYJ 474 V (470 kΩ)	
R4084	7030003400	S.RES	ERJ3GEYJ 471 V (470 Ω)	
R4086	7030003400	S.RES	ERJ3GEYJ 471 V (470 Ω)	
R4087	7030003330	S.RES	ERJ3GEYJ 121 V (120 Ω)	
R4088	7030003330	S.RES	ERJ3GEYJ 121 V (120 Ω)	
R4089	7030003290	S.RES	ERJ3GEYJ 560 V (56 Ω)	
R4090	7030003320	S.RES	ERJ3GEYJ 101 V (100 Ω)	
R4091	7030003320	S.RES	ERJ3GEYJ 101 V (100 Ω)	
R4092	7030003430	S.RES	ERJ3GEYJ 821 V (820 Ω)	
R4093	7030003300	S.RES	ERJ3GEYJ 680 V (68 Ω)	[AUS], [UK]
	7030003310	S.RES	ERJ3GEYJ 820 V (82 Ω)	[IC-A3], [EUR], [EUR-1]
R4094	7030003300	S.RES	ERJ3GEYJ 680 V (68 Ω)	[AUS], [UK]
	7030003310	S.RES	ERJ3GEYJ 820 V (82 Ω)	[IC-A3], [EUR], [EUR-1]
R4095	7030003330	S.RES	ERJ3GEYJ 121 V (120 Ω)	[IC-A3], [EUR], [EUR-1]
	7030003360	S.RES	ERJ3GEYJ 221 V (220 Ω)	[AUS], [UK]
R4096	7030003480	S.RES	ERJ3GEYJ 222 V (2.2 kΩ)	
R4097	7030003770	S.RES	ERJ3GEYJ 564 V (560 kΩ)	
R4098	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R4099	7030003620	S.RES	ERJ3GEYJ 333 V (33 kΩ)	
R4100	7030003280	S.RES	ERJ3GEYJ 470 V (47 Ω)	
R4101	7030003400	S.RES	ERJ3GEYJ 471 V (470 Ω)	
R4102	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R4103	7030003800	S.RES	ERJ3GEYJ 105 V (1 MΩ)	[AUS], [UK]
	7030003830	S.RES	ERJ3GEYJ 185 V (1.8 MΩ)	[EUR], [EUR-1]
C4001	4030007050	S.CER	C1608 CH 1H 220J-T	

S.=Surface mount

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C4002	4030006980	S.CER C1608 CH 1H 070D-T	
C4003	4030008560	S.CER C1608 CH 1H 300J-T	
C4004	4030006940	S.CER C1608 CH 1H 030C-T	
C4005	4030007040	S.CER C1608 CH 1H 180J-T	
C4006	4030006860	S.CER C1608 JB 1H 102K-T	
C4007	4030007050	S.CER C1608 CH 1H 220J-T	
C4008	4030007080	S.CER C1608 CH 1H 390J-T	
C4009	4030007030	S.CER C1608 CH 1H 150J-T	
C4010	4030006860	S.CER C1608 JB 1H 102K-T	
C4011	4030006860	S.CER C1608 JB 1H 102K-T	
C4012	4030007030	S.CER C1608 CH 1H 150J-T	
C4013	4030007030	S.CER C1608 CH 1H 150J-T	
C4014	4030006860	S.CER C1608 JB 1H 102K-T	
C4015	4030006860	S.CER C1608 JB 1H 102K-T	
C4016	4030006860	S.CER C1608 JB 1H 102K-T	
C4017	4030006950	S.CER C1608 CH 1H 040C-T	
C4018	4030007110	S.CER C1608 CH 1H 680J-T	
C4019	4030006860	S.CER C1608 JB 1H 102K-T	
C4020	4030007110	S.CER C1608 CH 1H 680J-T	
C4023	4030006860	S.CER C1608 JB 1H 102K-T	
C4024	4030006860	S.CER C1608 JB 1H 102K-T	
C4025	4030006860	S.CER C1608 JB 1H 102K-T	
C4027	4030007110	S.CER C1608 CH 1H 680J-T	
C4028	4030006860	S.CER C1608 JB 1H 102K-T	
C4029	4030007110	S.CER C1608 CH 1H 680J-T	
C4031	4030006860	S.CER C1608 JB 1H 102K-T	
C4032	4030006860	S.CER C1608 JB 1H 102K-T	
C4033	4030007080	S.CER C1608 CH 1H 390J-T	
C4034	4030006860	S.CER C1608 JB 1H 102K-T	
C4036	4030006980	S.CER C1608 CH 1H 070D-T	
C4037	4030006900	S.CER C1608 JB 1H 103K-T	
C4038	4030006900	S.CER C1608 JB 1H 103K-T	
C4039	4030006860	S.CER C1608 JB 1H 102K-T	
C4040	4030006900	S.CER C1608 JB 1H 103K-T	
C4042	4030006860	S.CER C1608 JB 1H 102K-T	
C4043	4030006860	S.CER C1608 JB 1H 102K-T	
C4044	4030006860	S.CER C1608 JB 1H 102K-T	
C4045	4030007040	S.CER C1608 CH 1H 180J-T	
C4046	4030006860	S.CER C1608 JB 1H 102K-T	
C4047	4030007050	S.CER C1608 CH 1H 220J-T	
C4048	4030006860	S.CER C1608 JB 1H 102K-T	
C4049	4030006860	S.CER C1608 JB 1H 102K-T	
C4050	4030006860	S.CER C1608 JB 1H 102K-T	
C4051	4030006860	S.CER C1608 JB 1H 102K-T	
C4053	4030006860	S.CER C1608 JB 1H 102K-T	
C4054	4030006990	S.CER C1608 CH 1H 080D-T	
C4055	4030006860	S.CER C1608 JB 1H 102K-T	
C4056	4030006860	S.CER C1608 JB 1H 102K-T	
C4057	4030006860	S.CER C1608 JB 1H 102K-T	
C4058	4030006860	S.CER C1608 JB 1H 102K-T	
C4059	4030007080	S.CER C1608 CH 1H 390J-T	
C4078	4510004630	S.ELE ECEV1CA100SR	
C4080	4510005860	S.ELE ECEV1HA2R2SR	
C4090	4030006860	S.CER C1608 JB 1H 102K-T	
C4091	4510004630	S.ELE ECEV1CA100SR	[IC-A3] only
C4092	4030006860	S.CER C1608 JB 1H 102K-T	
C4093	4030006860	S.CER C1608 JB 1H 102K-T	
C4094	4510004630	S.ELE ECEV1CA100S	[IC-A3E]
	4510004650	S.ELE ECEV1EA4R7SR	[IC-A3]
C4095	4030006860	S.CER C1608 JB 1H 102K-T	
C4096	4030006860	S.CER C1608 JB 1H 102K-T	
C4097	4030006860	S.CER C1608 JB 1H 102K-T	
C4098	4030006860	S.CER C1608 JB 1H 102K-T	
C4099	4030007070	S.CER C1608 CH 1H 330J-T	
C4100	4030006990	S.CER C1608 CH 1H 080D-T	[IC-A3]
	4030007000	S.CER C1608 CH 1H 090D-T	[IC-A3E]
C4101	4610001910	S.TRI CTZ3E-10A-W1	
C4102	4550006150	S.TAN ECST1CY105R	
C4104	4550006360	S.TAN ECST1VY104R	
C4106	4030006860	S.CER C1608 JB 1H 102K-T	
C4107	4030006860	S.CER C1608 JB 1H 102K-T	
C4108	4030006860	S.CER C1608 JB 1H 102K-T	
C4109	4030006860	S.CER C1608 JB 1H 102K-T	
C4110	4030006860	S.CER C1608 JB 1H 102K-T	
C4111	4030006860	S.CER C1608 JB 1H 102K-T	
C4112	4030006860	S.CER C1608 JB 1H 102K-T	
C4113	4030007040	S.CER C1608 CH 1H 180J-T	
C4114	4030006860	S.CER C1608 JB 1H 102K-T	Except [UK]
	4030007080	S.CER C1608 CH 1H 390J-T	[UK]
C4115	4030006860	S.CER C1608 JB 1H 102K-T	
C4116	4030006860	S.CER C1608 JB 1H 102K-T	
C4118	4030006860	S.CER C1608 JB 1H 102K-T	
C4119	4030006860	S.CER C1608 JB 1H 102K-T	
C4121	4030006860	S.CER C1608 JB 1H 102K-T	
C4122	4030006860	S.CER C1608 JB 1H 102K-T	
C4123	4030006860	S.CER C1608 JB 1H 102K-T	
C4124	4030006860	S.CER C1608 JB 1H 102K-T	
C4125	4030006860	S.CER C1608 JB 1H 102K-T	
C4126	4030006860	S.CER C1608 JB 1H 102K-T	
C4127	4030006860	S.CER C1608 JB 1H 102K-T	

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C4129	4030006860	S.CER C1608 JB 1H 102K-T	
C4130	4030006860	S.CER C1608 JB 1H 102K-T	
C4134	4510004440	S.ELE ECEV1HA010SR	
C4135	4030006860	S.CER C1608 JB 1H 102K-T	
C4136	4030006860	S.CER C1608 JB 1H 102K-T	
C4137	4030006860	S.CER C1608 JB 1H 102K-T	
C4138	4030006860	S.CER C1608 JB 1H 102K-T	
C4139	4510004630	S.ELE ECEV1CA100SR	
C4140	4030006860	S.CER C1608 JB 1H 102K-T	
C4141	4030006860	S.CER C1608 JB 1H 102K-T	
C4143	4030006860	S.CER C1608 JB 1H 102K-T	
C4144	4030006860	S.CER C1608 JB 1H 102K-T	
C4145	4030006860	S.CER C1608 JB 1H 102K-T	
C4146	4030006860	S.CER C1608 JB 1H 102K-T	
C4147	4030006860	S.CER C1608 JB 1H 102K-T	
C4148	4030006860	S.CER C1608 JB 1H 102K-T	
C4149	4030006860	S.CER C1608 JB 1H 102K-T	
C4150	4030006860	S.CER C1608 JB 1H 102K-T	
C4151	4030006860	S.CER C1608 JB 1H 102K-T	
C4152	4030006860	S.CER C1608 JB 1H 102K-T	
C4153	4030006860	S.CER C1608 JB 1H 102K-T	
C4155	4550006220	S.TAN TEESVA 0J 156M8L	
C4156	4030006860	S.CER C1608 JB 1H 102K-T	
C4157	4550006540	S.TAN ECST1CY475R	[IC-A3] only
C4158	4030006860	S.CER C1608 JB 1H 102K-T	
C4159	4030009510	S.CER C1608 CH 1H 010B-T	
C4160	4030009520	S.CER C1608 CH 1H 020B-T	
C4161	4030009570	S.CER C1608 CH 1H 0R3B-T	
C4162	4030009510	S.CER C1608 CH 1H 010B-T	
C4163	4030007070	S.CER C1608 CH 1H 330J-T	
C4164	4030011600	S.CER C1608 JB 1E 104K-T	
J4002	6450001300	CNR HEC0779-010030	
J4003	6450000130	CNR HSJ1102-01-540	
J4004	6450001060	CNR HSJ1493-01-010	
J4005	6510007090	CNR PI28A-04M	
J4006	6510017720	S.CNR IL-FPR-30S-VF-E1500	
W4001	7030003860	S.RES ERJ3GE JPW V	
W4002	7030003860	S.RES ERJ3GE JPW V	
W4003	7030003860	S.RES ERJ3GE JPW V	
W4004	7030003860	S.RES ERJ3GE JPW V	
W4005	7030003860	S.RES ERJ3GE JPW V	
W4006	7030003860	S.RES ERJ3GE JPW V	
W4007	7120000380	JMP JPW 01 R-01	
W4011	8900005320	FFC OPC-519 (N:30 L:55)	
W4012	7030003860	S.RES ERJ3GE JPW V	
W4013	7030003860	S.RES ERJ3GE JPW V	
W4015	7030003860	S.RES ERJ3GE JPW V	
W4016	7030003860	S.RES ERJ3GE JPW V	
WS1	8970021760	M.OTH AX1541 J LEAD SET (3) /RF	
EP4002	8950004480	TUB SR tube 2.9 X 4 CP (L=1M)	[AUS]
EP4002	9019601483	TUB tube 2.9 X 4 CP (L=10MM)	Except [AUS]

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION		
IC5001	1110003490	S.IC	TA31136FN (D,EL)	
IC5002	1130005640	S.IC	TC4W53F (TE12L)	
IC5003	1110002330	IC	TA7368P	
IC5004	1110003670	S.IC	BA3308F-E2	
IC5005	1130007650	S.IC	TC75W51FU (TE12L)	
IC5006	1180001170	S.IC	S-81250SG-QD-T1	[IC-A3], [EUR], [UK]
	1180002250	S.IC	S-812C50AMC-C3E-T2	[EUR-1], [AUS]
IC5007	1110002860	S.IC	TA75S393F (TE85R)	
IC5008	1130004200	S.IC	TC4S66F (TE85R)	
Q5002	1530002600	S.TR	2SC4215-O (TE85R)	
Q5003	1530002600	S.TR	2SC4215-O (TE85R)	
Q5004	1530003280	S.TR	2SC4211-6-TL	
Q5005	1530003280	S.TR	2SC4211-6-TL	
Q5006	1520000650	S.TR	2SB1201-S-TL	
Q5007	1530003280	S.TR	2SC4211-6-TL	
Q5008	1590001140	S.TR	UN9210 (TX)	
Q5010	1530003280	S.TR	2SC4211-6-TL	[IC-A3], [EUR], [EUR-1]
	1540000520	S.TR	2SD1819A (TX) R	[AUS], [UK]
Q5013	1590001980	S.TR	XP4315 (TX)	
Q5014	1520000460	S.TR	2SB1132 T100 R	
Q5015	1530003280	S.TR	2SC4211-6-TL	
Q5016	1520000460	S.TR	2SB1132 T100 R	
Q5017	1530003280	S.TR	2SC4211-6-TL	
Q5018	1590001130	S.TR	UN9110 (TX)	
Q5019	1520000460	S.TR	2SB1132 T100 R	
Q5020	1530003280	S.TR	2SC4211-6-TL	
Q5026	1530003280	S.TR	2SC4211-6-TL	
Q5027	1510000880	S.TR	2SA1622-6-TL	
Q5028	1520000460	S.TR	2SB1132 T100 R	
Q5029	1590001150	S.TR	UN9211 (TX)	
Q5030	1530002600	S.TR	2SC4215-O (TE85R)	
Q5031	1530003280	S.TR	2SC4211-6-TL	[IC-A3], [EUR], [EUR-1]
	1540000520	S.TR	2SD1819A (TX) R	[AUS], [UK]
D5003	1790001280	S.DIO	MA111 (TX)	
D5005	1790001280	S.DIO	MA111 (TX)	
D5006	1790001280	S.DIO	MA111 (TX)	
D5007	1790001280	S.DIO	MA111 (TX)	
D5008	1790001280	S.DIO	MA111 (TX)	
D5009	1790000860	S.DIO	MA133 (TX)	
D5010	1790001280	S.DIO	MA111 (TX)	
D5011	1790001330	S.ZEN	MA8036-L (TX)	
D5013	1790001280	S.DIO	MA111 (TX)	
D5014	1790001280	S.DIO	MA111 (TX)	
D5015	1790000860	S.DIO	MA133 (TX)	[AUS], [UK] only
FI5001	2020001070	CER	CFWLA455KDFA-B0 (CFWS455D)	
X5001	6050008880	XTL	CR-458 (35.345106 MHz)	
X5002	6070000130	DCR	CDBLB455KCAY24-B0 (CDBM455C24)	
R5001	7030003480	S.RES	ERJ3GEYJ 222 V (2.2 kΩ)	
R5008	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R5009	7030003500	S.RES	ERJ3GEYJ 332 V (3.3 kΩ)	
R5010	7030003520	S.RES	ERJ3GEYJ 472 V (4.7 kΩ)	
R5011	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R5012	7030003500	S.RES	ERJ3GEYJ 332 V (3.3 kΩ)	
R5013	7030003730	S.RES	ERJ3GEYJ 274 V (270 kΩ)	
R5014	7030003520	S.RES	ERJ3GEYJ 472 V (4.7 kΩ)	
R5015	7030003720	S.RES	ERJ3GEYJ 224 V (220 kΩ)	
R5016	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R5017	7030003740	S.RES	ERJ3GEYJ 334 V (330 kΩ)	
R5018	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R5020	7030003520	S.RES	ERJ3GEYJ 472 V (4.7 kΩ)	
R5021	7030003630	S.RES	ERJ3GEYJ 393 V (39 kΩ)	
R5023	7030003310	S.RES	ERJ3GEYJ 820 V (82 Ω)	
R5024	7030003200	S.RES	ERJ3GEYJ 100 V (10 Ω)	
R5025	7030003420	S.RES	ERJ3GEYJ 681 V (680 Ω)	
R5026	7030003400	S.RES	ERJ3GEYJ 471 V (470 Ω)	
R5027	7030003590	S.RES	ERJ3GEYJ 183 V (18 kΩ)	
R5029	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R5030	7030003650	S.RES	ERJ3GEYJ 563 V (56 kΩ)	[AUS], [UK]
	7030003660	S.RES	ERJ3GEYJ 683 V (68 kΩ)	[IC-A3], [EUR], [EUR-1]
R5031	7030003650	S.RES	ERJ3GEYJ 563 V (56 kΩ)	
R5035	7030003460	S.RES	ERJ3GEYJ 152 V (1.5 kΩ)	
R5036	7030003400	S.RES	ERJ3GEYJ 471 V (470 Ω)	
R5037	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R5043	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R5044	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	[IC-A3], [EUR], [EUR-1]
	7030003540	S.RES	ERJ3GEYJ 682 V (6.8 kΩ)	[AUS], [UK]
	7030003510	S.RES	ERJ3GEYJ 392 V (3.9 kΩ)	[Others]
R5045	7030003640	S.RES	ERJ3GEYJ 473 V (47 kΩ)	
R5047	7310003610	S.TRI	EVM-1XSX50 B14 (103)	[IC-A3], [EUR], [UK]
	7310004530	S.TRI	EVM-2WSX80 B14 (103)	[EUR-1], [AUS]

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION		
R5049	7030003270	S.RES	ERJ3GEYJ 390 V (39 Ω)	
R5050	7030003580	S.RES	ERJ3GEYJ 153 V (15 kΩ)	
R5051	7030003800	S.RES	ERJ3GEYJ 105 V (1 MΩ)	
R5052	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	[AUS], [UK]
	7030003690	S.RES	ERJ3GEYJ 124 V (120 kΩ)	[IC-A3], [EUR], [EUR-1]
R5053	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R5054	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R5055	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R5058	7030003630	S.RES	ERJ3GEYJ 393 V (39 kΩ)	
R5059	7030003630	S.RES	ERJ3GEYJ 393 V (39 kΩ)	
R5060	7030003630	S.RES	ERJ3GEYJ 393 V (39 kΩ)	
R5061	7030003400	S.RES	ERJ3GEYJ 471 V (470 Ω)	
R5062	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R5063	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R5064	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R5065	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R5066	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R5070	7030003480	S.RES	ERJ3GEYJ 222 V (2.2 kΩ)	
R5071	7030003480	S.RES	ERJ3GEYJ 222 V (2.2 kΩ)	
R5072	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R5074	7030003650	S.RES	ERJ3GEYJ 563 V (56 kΩ)	
R5075	7030003640	S.RES	ERJ3GEYJ 473 V (47 kΩ)	
R5076	7030003480	S.RES	ERJ3GEYJ 222 V (2.2 kΩ)	
R5077	7030003520	S.RES	ERJ3GEYJ 472 V (4.7 kΩ)	
R5078	7030003630	S.RES	ERJ3GEYJ 393 V (39 kΩ)	
R5082	7210002670	VAR	RV-298 (TP96D00N15F10KB10KA)	
R5083	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R5084	7030003440	S.RES	ERJ3GEYJ 102 V (1 kΩ)	
R5085	7030003600	S.RES	ERJ3GEYJ 223 V (22 kΩ)	
R5086	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R5087	4610001530	S.TRI	EVM-1XSX50 B13 (102)	[IC-A3], [EUR], [UK]
	7310004590	S.TRI	EVM-2WSX80 B13 (102)	[EUR-1], [AUS]
R5088	7030003440	S.RES	ERJ3GEYJ 102 V (1 kΩ)	
R5089	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R5090	7030003440	S.RES	ERJ3GEYJ 102 V (1 kΩ)	
R5091	7030003620	S.RES	ERJ3GEYJ 333 V (33 kΩ)	
R5092	7030000170	S.RES	MCR10EZHJ 18 Ω (180)	
R5093	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R5097	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R5098	7310003660	S.TRI	EVM-1XSX50 B55 (504)	[IC-A3], [EUR], [UK]
	7310004670	S.TRI	EVM-2WSX80 B55 (504)	[EUR-1], [AUS]
R5099	7030003760	S.RES	ERJ3GEYJ 474 V (470 kΩ)	
R5100	7030003760	S.RES	ERJ3GEYJ 474 V (470 kΩ)	
R5101	7030003720	S.RES	ERJ3GEYJ 224 V (220 kΩ)	
R5102	7030003320	S.RES	ERJ3GEYJ 101 V (100 Ω)	
R5103	7030003500	S.RES	ERJ3GEYJ 332 V (3.3 kΩ)	
R5104	7030003540	S.RES	ERJ3GEYJ 682 V (6.8 kΩ)	
R5105	7030003700	S.RES	ERJ3GEYJ 154 V (150 kΩ)	
R5106	7030003730	S.RES	ERJ3GEYJ 274 V (270 kΩ)	[IC-A3], [EUR], [EUR-1]
	7030003880	S.RES	ERJ3GEYJ 244 V (240 kΩ)	[AUS], [UK]
R5107	7030003700	S.RES	ERJ3GEYJ 154 V (150 kΩ)	
R5108	7030003460	S.RES	ERJ3GEYJ 152 V (1.5 kΩ)	
R5112	7030003700	S.RES	ERJ3GEYJ 154 V (150 kΩ)	[AUS], [UK]
	7030003720	S.RES	ERJ3GEYJ 224 V (220 kΩ)	[IC-A3], [EUR], [EUR-1]
R5113	7030003600	S.RES	ERJ3GEYJ 223 V (22 kΩ)	[AUS], [UK]
	7030003620	S.RES	ERJ3GEYJ 333 V (33 kΩ)	[IC-A3], [EUR], [EUR-1]
R5114	7310003630	S.TRI	EVM-1XSX50 BQ4 (473)	[IC-A3], [EUR], [UK]
	7310004540	S.TRI	EVM-2WSX80 BQ4 (473)	[EUR-1], [AUS]
R5115	7030003590	S.RES	ERJ3GEYJ 183 V (18 kΩ)	[AUS], [UK]
	7030003600	S.RES	ERJ3GEYJ 223 V (22 kΩ)	[IC-A3], [EUR], [EUR-1]
R5116	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R5117	7030003340	S.RES	ERJ3GEYJ 151 V (150 Ω)	
R5118	7030003760	S.RES	ERJ3GEYJ 474 V (470 kΩ)	
R5120	7510000960	S.TMR	TBPS1R104K475H5Q	[IC-A3], [EUR], [EUR-1]
	7510001000	S.TMR	TBPS1R154K475H5Q	[AUS], [UK]
R5121	7030003710	S.RES	ERJ3GEYJ 184 V (180 kΩ)	[IC-A3], [EUR], [EUR-1]
	7030003760	S.RES	ERJ3GEYJ 474 V (470 kΩ)	[AUS], [UK]
R5123	7510000970	S.TMR	TBPS1R472K440H5Q	
R5124	7030003460	S.RES	ERJ3GEYJ 152 V (1.5 kΩ)	
R5125	7030003710	S.RES	ERJ3GEYJ 184 V (180 kΩ)	
R5126	7030003710	S.RES	ERJ3GEYJ 184 V (180 kΩ)	
R5127	7030003740	S.RES	ERJ3GEYJ 334 V (330 kΩ)	[IC-A3]
	7030003800	S.RES	ERJ3GEYJ 105 V (1 MΩ)	[AUS], [UK]
	7030003840	S.RES	ERJ3GEYJ 225 V (2.2 MΩ)	[EUR], [EUR-1]
R5128	7030003660	S.RES	ERJ3GEYJ 683 V (68 kΩ)	
R5129	7030003650	S.RES	ERJ3GEYJ 563 V (56 kΩ)	[AUS], [UK]
R5130	7030003770	S.RES	ERJ3GEYJ 564 V (560 kΩ)	[AUS], [UK]
C5001	4030006980	S.CER	C1608 CH 1H 070D-T	
C5002	4030007030	S.CER	C1608 CH 1H 150J-T	
C5003	4030011600	S.CER	C1608 JB 1E 104K-T	
C5004	4030006900	S.CER	C1608 JB 1H 103K-T	
C5005	4030006860	S.CER	C1608 JB 1H 102K-T	
C5006	4030006900	S.CER	C1608 JB 1H 103K-T	
C5007	4030006900	S.CER	C1608 JB 1H 103K-T	
C5008	4030006900	S.CER	C1608 JB 1H 103K-T	
C5010	4030006870	S.CER	C1608 JB 1H 222K-T	
C5011	4030006900	S.CER	C1608 JB 1H 103K-T	
C5012	4030006860	S.CER	C1608 JB 1H 102K-T	

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION		
C5013	4510004440	S.ELE	ECEV1HA010SR	
C5014	4510005810	S.ELE	ECEV1HAR47R	
C5015	4030006850	S.CER	C1608 JB 1H 471K-T	
C5016	4510005870	S.ELE	ECEV1HA3R3SR	
C5017	4510005320	S.ELE	ECEV0JA101SP	
C5018	4030008920	S.CER	C1608 JB 1H 473K-T	
C5019	4030011600	S.CER	C1608 JB 1E 104K-T	
C5020	4510005370	S.ELE	ECEV1AA221P	
C5021	4510005860	S.ELE	ECEV1HA2R2SR	
C5022	4030011600	S.CER	C1608 JB 1E 104K-T	
C5024	4510005740	S.ELE	ECEV1HAR22SR	
C5026	4510005810	S.ELE	ECEV1HAR47R	
C5030	4030007130	S.CER	C1608 CH 1H 101J-T	
C5031	4030006860	S.CER	C1608 JB 1H 102K-T	
C5032	4030006860	S.CER	C1608 JB 1H 102K-T	
C5033	4030006900	S.CER	C1608 JB 1H 103K-T	
C5034	4030006900	S.CER	C1608 JB 1H 103K-T	
C5040	4030008920	S.CER	C1608 JB 1H 473K-T	[AUS], [UK]
	4030010070	S.CER	C1608 X7S 1C 104K-T	[USA], [EUR], [EUR-1]
C5041	4030011600	S.CER	C1608 JB 1E 104K-T	
C5043	4550006200	S.TAN	ECST0JY106R	[USA]
	4550006220	S.TAN	TEESVA 0J 156M8L	Except [USA]
C5045	4510005860	S.ELE	ECEV1HA2R2SR	
C5046	4510004630	S.ELE	ECEV1CA100SR	
C5048	4030008470	S.CER	C1608 JB 1H 272K-T	
C5049	4030006900	S.CER	C1608 JB 1H 103K-T	
C5050	4030007150	S.CER	C1608 CH 1H 151J-T	
C5051	4550006150	S.TAN	ECST1CY105R	
C5052	4510005630	S.ELE	ECEV1EA330SP	
C5053	4030006860	S.CER	C1608 JB 1H 102K-T	
C5054	4030006860	S.CER	C1608 JB 1H 102K-T	
C5055	4510005430	S.ELE	ECEV0JA220SR	
C5056	4510005430	S.ELE	ECEV0JA220SR	
C5057	4510005430	S.ELE	ECEV0JA220SR	
C5058	4510005430	S.ELE	ECEV0JA220SR	
C5059	4510005430	S.ELE	ECEV0JA220SR	
C5060	4030006900	S.CER	C1608 JB 1H 103K-T	
C5062	4510004630	S.ELE	ECEV1CA100SR	
C5063	4030006900	S.CER	C1608 JB 1H 103K-T	
C5064	4030006860	S.CER	C1608 JB 1H 102K-T	
C5065	4030011600	S.CER	C1608 JB 1E 104K-T	
C5066	4030006900	S.CER	C1608 JB 1H 103K-T	
C5067	4030006900	S.CER	C1608 JB 1H 103K-T	
C5068	4030006860	S.CER	C1608 JB 1H 102K-T	
C5069	4030006860	S.CER	C1608 JB 1H 102K-T	
C5070	4030006860	S.CER	C1608 JB 1H 102K-T	
C5071	4030006860	S.CER	C1608 JB 1H 102K-T	
C5072	4550006370	S.TAN	ECST0JX226R	
C5073	4030006860	S.CER	C1608 JB 1H 102K-T	
C5074	4030006860	S.CER	C1608 JB 1H 102K-T	
C5075	4030011600	S.CER	C1608 JB 1E 104K-T	
C5076	4030006880	S.CER	C1608 JB 1H 472K-T	[AUS], [UK]
	4030010070	S.CER	C1608 X7S 1C 104K-T	[USA], [EUR], [EUR-1]
C5077	4510004630	S.ELE	ECEV1CA100SR	
C5078	4030011600	S.CER	C1608 JB 1E 104K-T	
C5079	4030006850	S.CER	C1608 JB 1H 471K-T	[AUS], [UK]
	4030010070	S.CER	C1608 X7S 1C 104K-T	[USA], [EUR], [EUR-1]
C5080	4030011600	S.CER	C1608 JB 1E 104K-T	
C5081	4030006900	S.CER	C1608 JB 1H 103K-T	
C5082	4550006220	S.TAN	TEESVA 0J 156M8L	
C5083	4550006360	S.TAN	ECST1VY104R	
C5084	4030011600	S.CER	C1608 JB 1E 104K-T	
C5085	4510005820	S.ELE	ECEV1CA101P	
C5086	4510004440	S.ELE	ECEV1HA010SR	
C5088	4030006860	S.CER	C1608 JB 1H 102K-T	
C5089	4030006860	S.CER	C1608 JB 1H 102K-T	
C5090	4510004650	S.ELE	ECEV1EA4R7SR	
J5001	6510017700	S.CNR	IL-WX-18PB-VF84-B-E900	
J5002	6510017700	S.CNR	IL-WX-18PB-VF84-B-E900	
J5003	6510017730	S.CNR	IL-FPR-30S-HF-E3000	
J5005	6510007080	CNR	PI28A-02M	
S5001	2250000240	SW	SW-157 (RH09710HH)	
W5002	7030003860	S.RES	ERJ3GE JPW V	
W5008	7030003860	S.RES	ERJ3GE JPW V	
WS1	8600034070	M.OTH	AX1541 P5001	

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION		
IC6001	1140004860	S.IC	HD4074829TF (Z-TAT)	[IC-A3E]
	1140004880	S.IC	HD404829B96TF	[Others]
IC6002	1190000260	S.IC	24LC08BTI/SN	
IC6003	1110005930	S.IC	S-80845CLMC-B66-T2	[EUR-1], [AUS]
	1130007340	S.IC	S-80745SL-A9-T1	[IC-A3], [EUR], [UK]
IC6004	1130003920	S.IC	TC4S69F (TE85R)	
Q6001	1590001840	S.TR	XN4601 (TX)	
Q6002	1530003280	S.TR	2SC4211-6-TL	
Q6003	1530003280	S.TR	2SC4211-6-TL	
Q6004	1520000460	S.TR	2SB1132 T100 R	
Q6005	1530003280	S.TR	2SC4211-6-TL	
Q6006	1590001150	S.TR	UN9211 (TX)	[IC-A3]
	1590003280	S.TR	UNR9211J-(TX)	[IC-A3E]
Q6007	1510000880	S.TR	2SA1622-6-TL	
D6001	1790001280	S.DIO	MA111 (TX)	
D6002	1790001280	S.DIO	MA111 (TX)	
D6003	1790001280	S.DIO	MA111 (TX)	
D6004	1790001280	S.DIO	MA111 (TX)	
D6005	1790001200	S.DIO	MA6S121 (TX)	
D6008	1790000840	S.DIO	MA132WA (TX)	
D6010	1790000840	S.DIO	MA132WA (TX)	
D6011	1790000840	S.DIO	MA132WA (TX)	
D6014	1790000990	S.ZEN	MA8051-H (TX)	
X6001	6050007390	XTL	CR-331 (3.9744 MHz)	
R6001	7030003640	S.RES	ERJ3GEYJ 473 V (47 kΩ)	
R6002	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R6003	7030003590	S.RES	ERJ3GEYJ 183 V (18 kΩ)	
R6004	7030003630	S.RES	ERJ3GEYJ 393 V (39 kΩ)	
R6005	7030003740	S.RES	ERJ3GEYJ 334 V (330 kΩ)	
R6006	7030004870	S.RES	ERJ3GEYF 224 V (220 kΩ)	
R6007	7030004810	S.RES	ERJ3GEYF 433 V (43 kΩ)	
R6008	7030003480	S.RES	ERJ3GEYJ 222 V (2.2 kΩ)	
R6009	7030003510	S.RES	ERJ3GEYJ 392 V (3.9 kΩ)	
R6010	7030003430	S.RES	ERJ3GEYJ 821 V (820 Ω)	
R6011	7030003430	S.RES	ERJ3GEYJ 821 V (820 Ω)	
R6012	7030003380	S.RES	ERJ3GEYJ 331 V (330 Ω)	
R6013	7030003640	S.RES	ERJ3GEYJ 473 V (47 kΩ)	
R6016	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)	
R6017	7030003640	S.RES	ERJ3GEYJ 473 V (47 kΩ)	
R6018	7030003540	S.RES	ERJ3GEYJ 682 V (6.8 kΩ)	
R6019	7030003620	S.RES	ERJ3GEYJ 333 V (33 kΩ)	
R6020	7030003590	S.RES	ERJ3GEYJ 183 V (18 kΩ)	
R6021	7030003620	S.RES	ERJ3GEYJ 333 V (33 kΩ)	
R6022	7030003800	S.RES	ERJ3GEYJ 105 V (1 MΩ)	
R6023	7030003680	S.RES	ERJ3GEYJ 104 V (100 kΩ)	
R6024	7030003800	S.RES	ERJ3GEYJ 105 V (1 MΩ)	
R6025	7410000590	S.ARY	EXB-V4V 473JV (47 kΩ)	
R6026	7030003240	S.RES	ERJ3GEYJ 220 V (22 Ω)	
R6027	7030003590	S.RES	ERJ3GEYJ 183 V (18 kΩ)	
C6001	4550006370	S.TAN	ECST0JX226R	
C6002	4550006530	S.TAN	ECST0JY685R	
C6003	4030007030	S.CER	C1608 CH 1H 150J-T	
C6004	4030007030	S.CER	C1608 CH 1H 150J-T	
C6005	4030011600	S.CER	C1608 JB 1E 104K-T	
C6006	4030011600	S.CER	C1608 JB 1E 104K-T	
C6007	4030011600	S.CER	C1608 JB 1E 104K-T	
C6008	4030011600	S.CER	C1608 JB 1E 104K-T	
C6009	4030006900	S.CER	C1608 JB 1H 103K-T	
C6011	4030006860	S.CER	C1608 JB 1H 102K-T	
J6001	6510017710	S.CNR	IL-WX-18SB-VF-H4.75-B-E800	
J6002	6510017710	S.CNR	IL-WX-18SB-VF-H4.75-B-E800	
J6003	6510017900	CNR	3-174642-6	
DS6001	5030001180	LCD	LD-BU4279J (E-4148)	[IC-A3], [EUR], [UK]
	5030002200	LCD	TTR5674 UPFDHW	[EUR-1], [AUS]
DS6002	5010000120	S.LED	LN1371G-(TR)	
DS6003	5010000120	S.LED	LN1371G-(TR)	
DS6004	5010000120	S.LED	LN1371G-(TR)	
DS6005	5010000120	S.LED	LN1371G-(TR)	
DS6006	5040001920	S.LED	SML-110MT T86	
DS6007	5040001920	S.LED	SML-110MT T86	
MC6001	7700001520	MIC	EM-123T	[IC-A3E]
MC6001	7700002310	MIC	EM-140	[IC-A3]

S.=Surface mount

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION		
EP6002	8930034040	LCT	SRCN-1541 SG	Except [AUS]
EP6002	8930040950	LCT	SRCN-1541-SS	[AUS]
EP6002	8930045060	LCT	SRCN-1541-SP-N-W	

[VCO UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
Q7001	1530002920	S.TR	2SC4226-T1 R25
Q7002	1530002920	S.TR	2SC4226-T1 R25
Q7003	1530002560	S.TR	2SC4403-3-TL
D7001	1790001290	S.VCP	MA304 (TX)
D7002	1790000620	S.DIO	MA77 (TX)
L7001	6200001520	S.COL	MLF2012D R82K-T
L7002	6110002990	COL	LA-487
L7003	6200001630	S.COL	ELJNC R10K-F
R7001	7030003550	S.RES	ERJ3GEYJ 822 V (8.2 kΩ)
R7002	7030003360	S.RES	ERJ3GEYJ 221 V (220 Ω)
R7003	7030003550	S.RES	ERJ3GEYJ 822 V (8.2 kΩ)
R7004	7030003360	S.RES	ERJ3GEYJ 221 V (220 Ω)
R7005	7030003320	S.RES	ERJ3GEYJ 101 V (100 Ω)
R7006	7030003610	S.RES	ERJ3GEYJ 273 V (27 kΩ)
R7007	7030003320	S.RES	ERJ3GEYJ 101 V (100 Ω)
R7008	7030003720	S.RES	ERJ3GEYJ 224 V (220 kΩ)
R7009	7030003560	S.RES	ERJ3GEYJ 103 V (10 kΩ)
C7001	4030006860	S.CER	C1608 JB 1H 102K-T
C7001	4030007090	S.CER	C1608 CH 1H 470J-T
C7002	4030009650	S.CER	C1608 CH 1H 240J-T
C7004	4030009540	S.CER	C1608 CH 1H 1R5B-T
C7005	4030009540	S.CER	C1608 CH 1H 1R5B-T
C7006	4030006860	S.CER	C1608 JB 1H 102K-T
C7007	4030006860	S.CER	C1608 JB 1H 102K-T
C7008	4030009500	S.CER	C1608 CH 1H 0R5B-T
C7009	4030007040	S.CER	C1608 CH 1H 180J-T
C7010	4030006860	S.CER	C1608 JB 1H 102K-T
C7011	4030006860	S.CER	C1608 JB 1H 102K-T
C7012	4030006860	S.CER	C1608 JB 1H 102K-T
C7013	4030006860	S.CER	C1608 JB 1H 102K-T
C7014	4030006860	S.CER	C1608 JB 1H 102K-T
J7001	6910008020	CNR	IPS-1323
J7002	6910008020	CNR	IPS-1323
J7003	6910008020	CNR	IPS-1323
J7004	6910008020	CNR	IPS-1323

[PTT UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
J9001	6510018110	S.CNR	3-175637-6
S9001	2260002160	S.SW	EVQ-PLM A15
S9002	2260001680	S.SW	SKQDPB
S9003	2260001680	S.SW	SKQDPB

S.=Surface mount

SECTION 6 MECHANICAL PARTS AND DISASSEMBLY

[CHASSIS PARTS]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J3001	6510015550	Antenna Connector BNC-R117 (incl. nut)	1
P3001	6510007720	PI28A-02F	1
MP3001	8210011440	1541 rear panel	1
MP3002	8210013230	1541 front panel (D) [IC-A22]	1
	8210011560	1541 front panel (C) [IC-A22E]	1
	8210011990	1541 front panel [IC-A3]	1
	8210011770	1541 front panel (A) [IC-A3E]	1
MP3003	8010015670	1541 chassis	1
MP3004	8930033430	1541 10-key	1
MP3005	8930033420	1541 contact base	1
MP3006	8930033510	1541 PTT rubber	1
MP3007	8930031510	1389 module shield	1
MP3008	8510009290	1541 module cover	1
MP3011	8930042252	1257 release button (A) -2	1
MP3012	8930030041	1452 contact spring-1	3
MP3013	8930029830	1452 SP rubber	1
MP3014	8310034120	1541 bottom plate	1
MP3015	8930033400	1541 DC cap	1
MP3016	8930033340	1541 SP holder	1
MP3019	8930033530	1541 DC sheet	1
MP3020	8810008480	Screw PH BT M2×29 ZK	4
MP3021	8810006610	Screw PH No. 0 M2×2.5 NI	4
MP3022	8810006610	Screw PH No. 0 M2×2.5 NI	4
MP3023	8810006610	Screw PH No. 0 M2×2.5 NI	1
MP3024	8810008350	Screw PH No. 0 M2×6 NI	3
MP3025	8810005360	Screw PH No. 0 M2×3 ZK	1
MP3026	8810008360	Screw PH No. 0 M2.6×3.5 NI	2
MP3027	8010014982	Hole bush (B) -2	2
MP3029	8930033410	1541 MIC cap	1
MP3030	8810006610	Screw PH No. 0 M2×2.5 NI	1
MP3032	8860000840	1266 lug	1
W3001	9015410030	24/04/40/D2/W01	1
W3002	9076900150	24/00/040/D02/W01	1
SP3001	2510000730	Speaker EAS-3P127G	1

[RF UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP4001	8510002640	RF-can (1) (Coil shield)	1
MP4002	8510002640	RF-can (1) (Coil shield)	1
MP4003*	8930004081	Ground spring (B) -1	1
W4011	8900005320	Flat cable OPC-519	1

[VCO BOARD]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP7001	8510009630	1551 VCO case	1

NOTE

* Refer to SEC9. BOARD LAYOUTS.

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP5001	8210011570	1541 top panel	1
MP5002	8610009320	Knob N-224 base	1
MP5003	8010013100	Knob N-194 cover	1
MP5004	8610009590	Knob N-195 base (A)	1
MP5005	8010013110	Knob N-195 cover	1
MP5006	8610009600	Knob N-196 base (A)	1
MP5007	8010013120	Knob N-196 cover	1
MP5008	8930033720	1541 top seal	1
MP5009	8830000790	VR nut (H)	2

[LOGIC UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
DS6001	5030002100	LCD TTR5680 [IC-A22/E]	1
	5030001180	LCD LD-BU4279J [IC-A3/E]	1
EP6002	8930045060	LCD contact SRCN-1541-SP-N-W [IC-A22/E]	2
	8930045060	LCD contact SRCN-1541-SP-N-W [IC-A3/E]	1
MP6002	8930033350	1541 LCD holder	1
MP6003	8210011431	1541 reflector-1	1

[PRT UNIT]

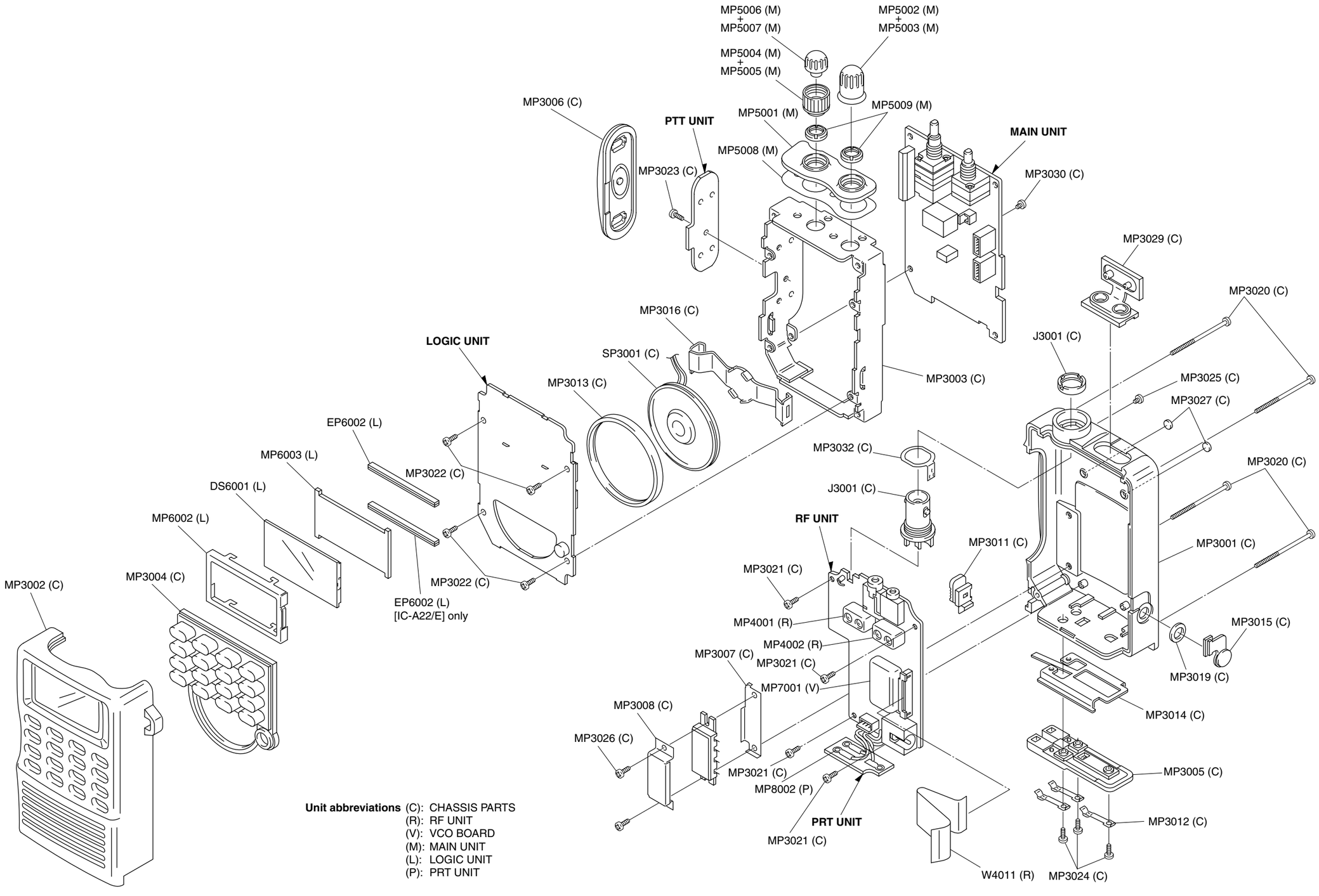
REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP8002	8860000010	Screw lug M2	3

[ACCESORIES]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
EP1001	3310001480	Antenna FA-B01AR	1
EP1002	Optional product	Battery pack CM-166 [USA[, [EUR], [AUS], [UK]	1
EP1003	Optional product	Wall charger BM-112U [USA]	1
	Optional product	Wall charger BM-112E [EUR]	1
	Optional product	Wall charger BM-95V [AUS]	1
EP1004	Optional product	Battery case CM-167 [IC-A22], [USA-1] only	1
MP1001	8010005710	448 belt clip	1
MP1002	8810005730	Screw BuH M3×3 ZK BS	2
MP1003	8310025060	1144 caution label (C)	1
W1001	Optional product	Charger adapter cable OPC-507A [AUS]	1
W1002	Optional product	Headset adapter cable OPC-499 Except [USA-1], [IC-A3]	1
ZP1001	Optional product	Leather case LC-122	1

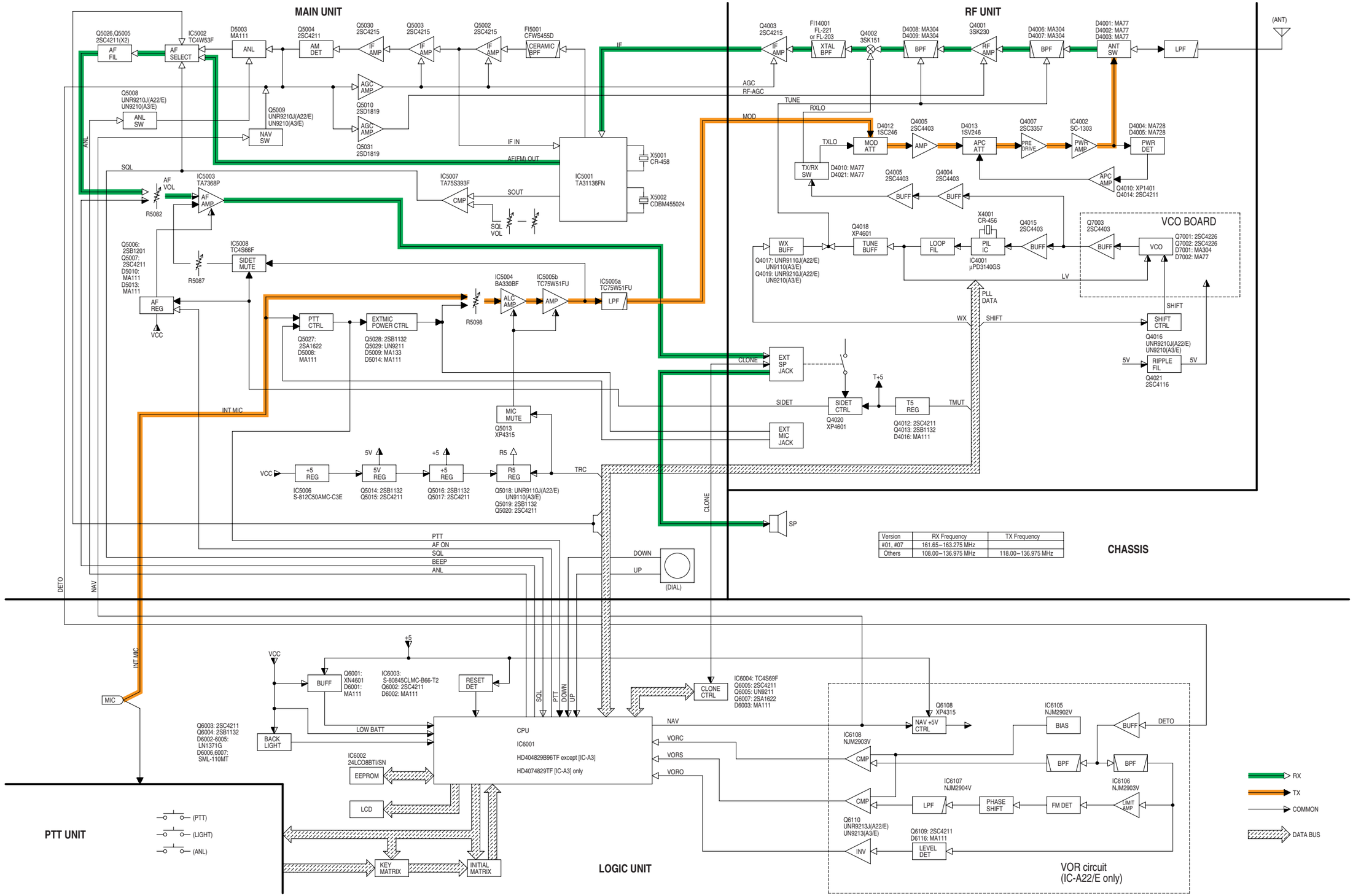
Screw abbreviations

BT: Self-tapping PH: Pan head BuH: Button head
NI: Nickel ZK: Black BS: Brass



Unit abbreviations (C): CHASSIS PARTS
(R): RF UNIT
(V): VCO BOARD
(M): MAIN UNIT
(L): LOGIC UNIT
(P): PRT UNIT

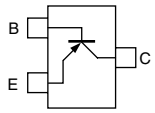
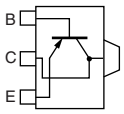
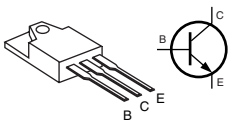
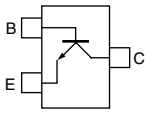
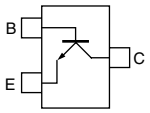
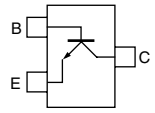
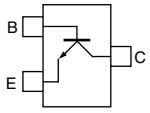
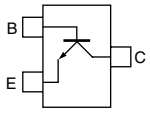
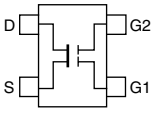
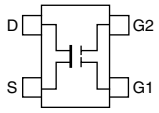
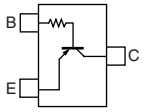
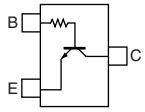
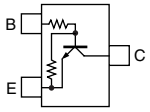
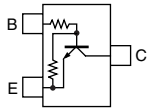
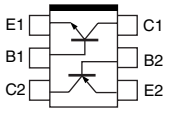
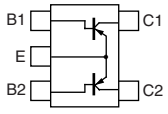
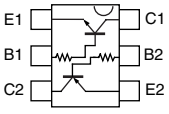
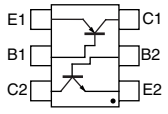
SECTION 7 BLOCK DIAGRAM



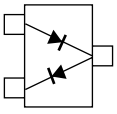
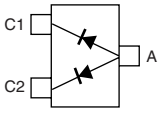
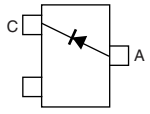
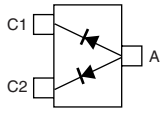
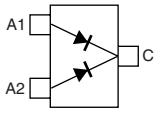
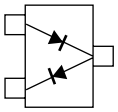
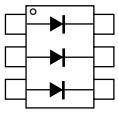
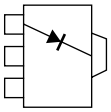
Version	RX Frequency	TX Frequency
#01, #07	161.65–163.275 MHz	
Others	108.00–136.975 MHz	118.00–136.975 MHz

SECTION 8 SEMICONDUCTOR INFORMATION

• TRANSISTORS AND FET'S

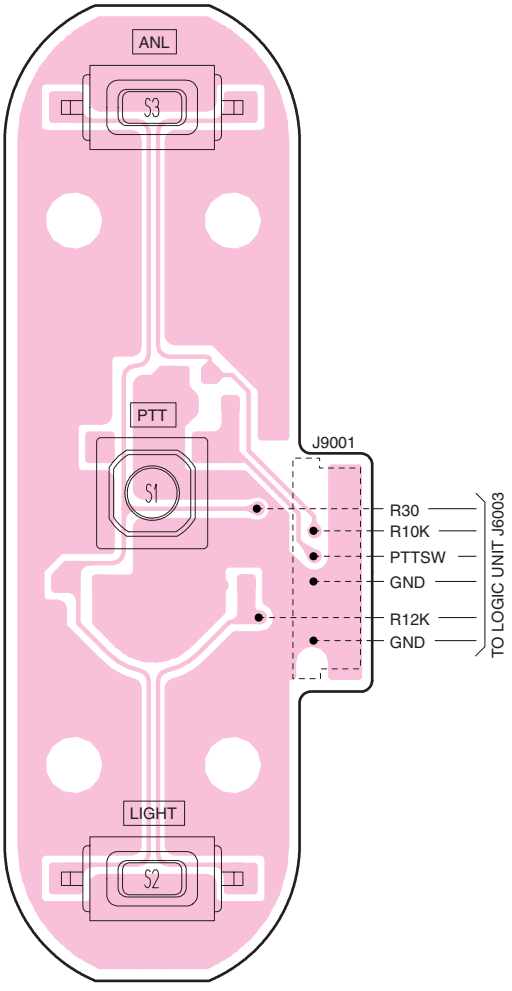
2SA1162 6 (Symbol: M6) 	**2SB1132 R** (Symbol: BARB) 	**2SC3357 RF** (Symbol: RF) 	**2SC4116 BL** (Symbol: LL) 	**2SC4215 O** (Symbol: QO) 
2SC4226 R25 (Symbol: R25) 	**2SC4403 3** (Symbol: LY3) 	**2SD1819A R** (Symbol: LG) 	**3SK151 Y** (Symbol: UH) 	**3SK230 U1B** (Symbol: U1B) 
UN9110 (Symbol: 6L) 	**UN9210** (Symbol: 8L) 	**UN9211** (Symbol: 8A) 	**UN9213** (Symbol: 8C) 	**XN4601** (Symbol: 5C) 
XP1401 (Symbol: 5V) 	**XP4315** (Symbol: CB) 	**XP4601** (Symbol: 5C) 		

• DIODES

1SV246 TR (Symbol: CV) 	**DAP202 U** (Symbol: P) 	**MA132A** (Symbol: MB) 	**MA132WA** (Symbol: MO) 	**MA132WK** (Symbol: MU) 
MA133 (Symbol: MP) 	**MA6S121** (Symbol: M2D) 	**SB30 03P TD** (Symbol: SG) 		

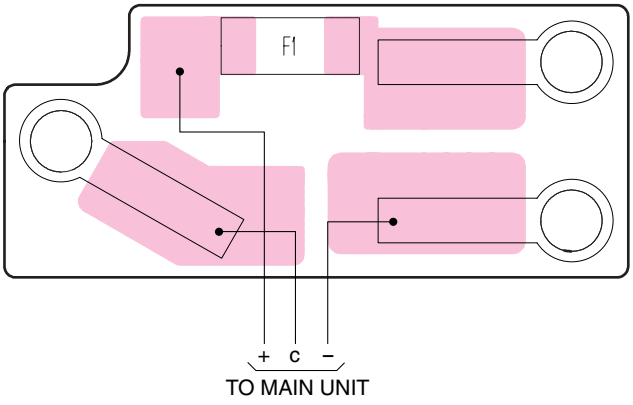
SECTION 9 BOARD LAYOUTS

9-1 PTT UNIT

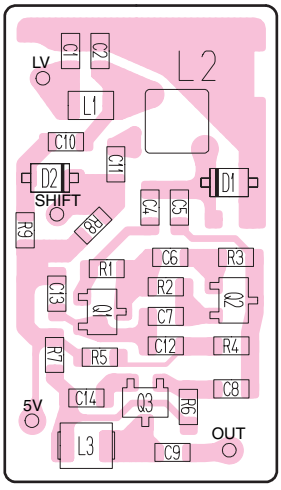


NOTE: Add "9000" to each indicated part number on the unit for the actual part number.

9-2 PRT UNIT



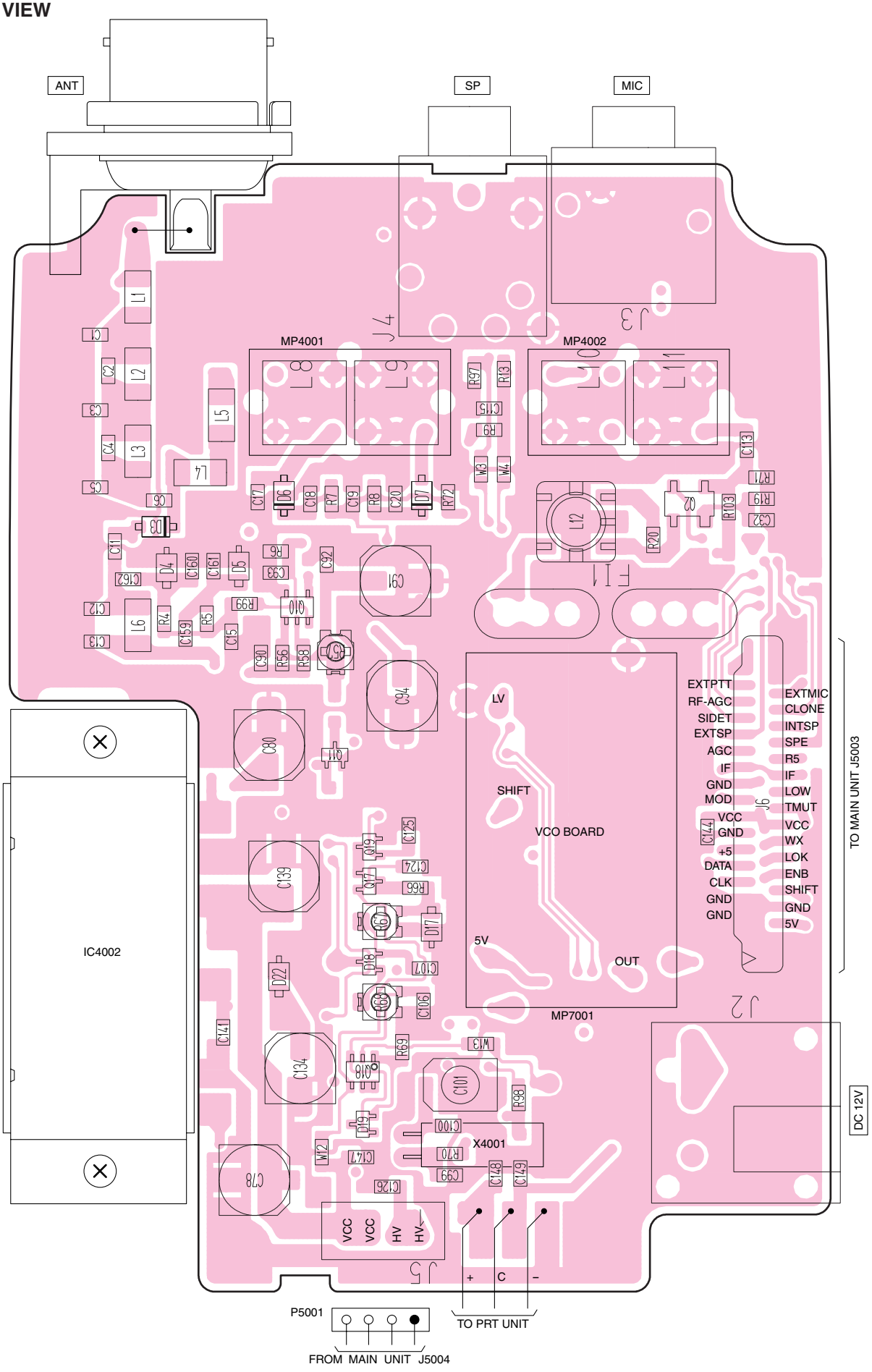
9-3 VCO BOARD



NOTE: Add "7000" to each indicated part number on the board for the actual part number.

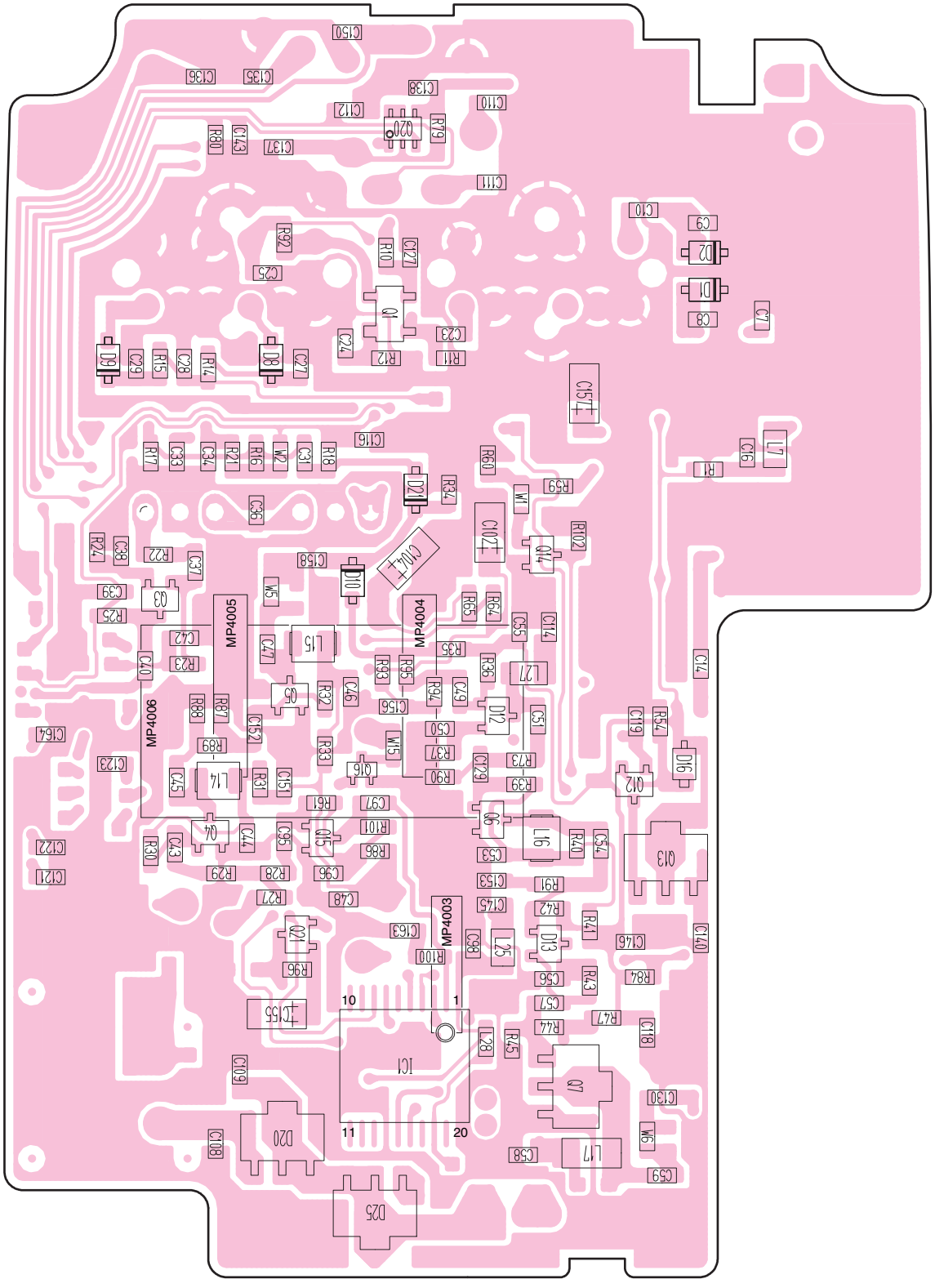
9-4 RF UNIT

• TOP VIEW



NOTE: Add "4000" to each indicated part number on the unit for the actual part number.

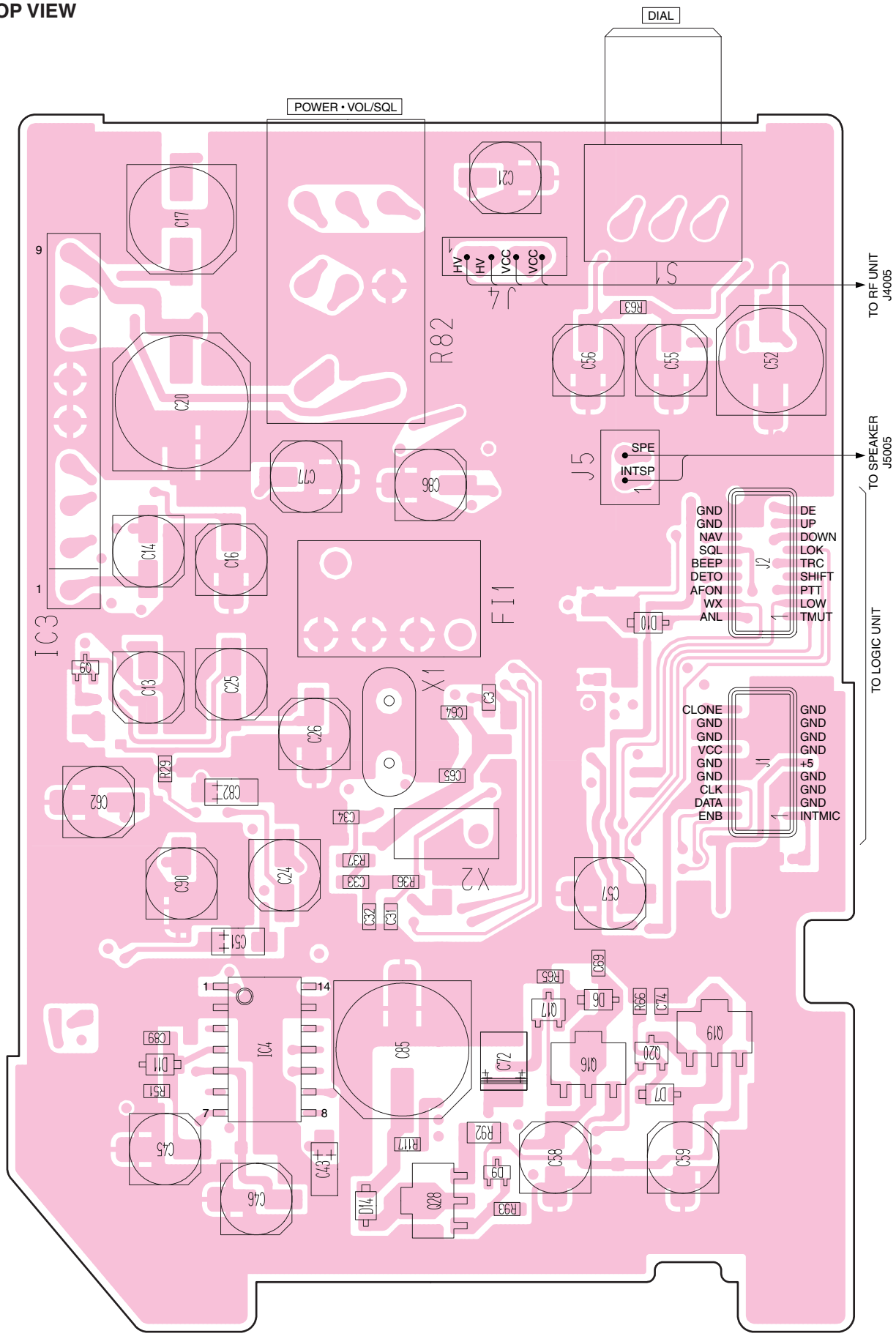
• **BOTTOM VIEW (RF UNIT)**



NOTE: Add "4000" to each indicated part number on the unit for the actual part number.

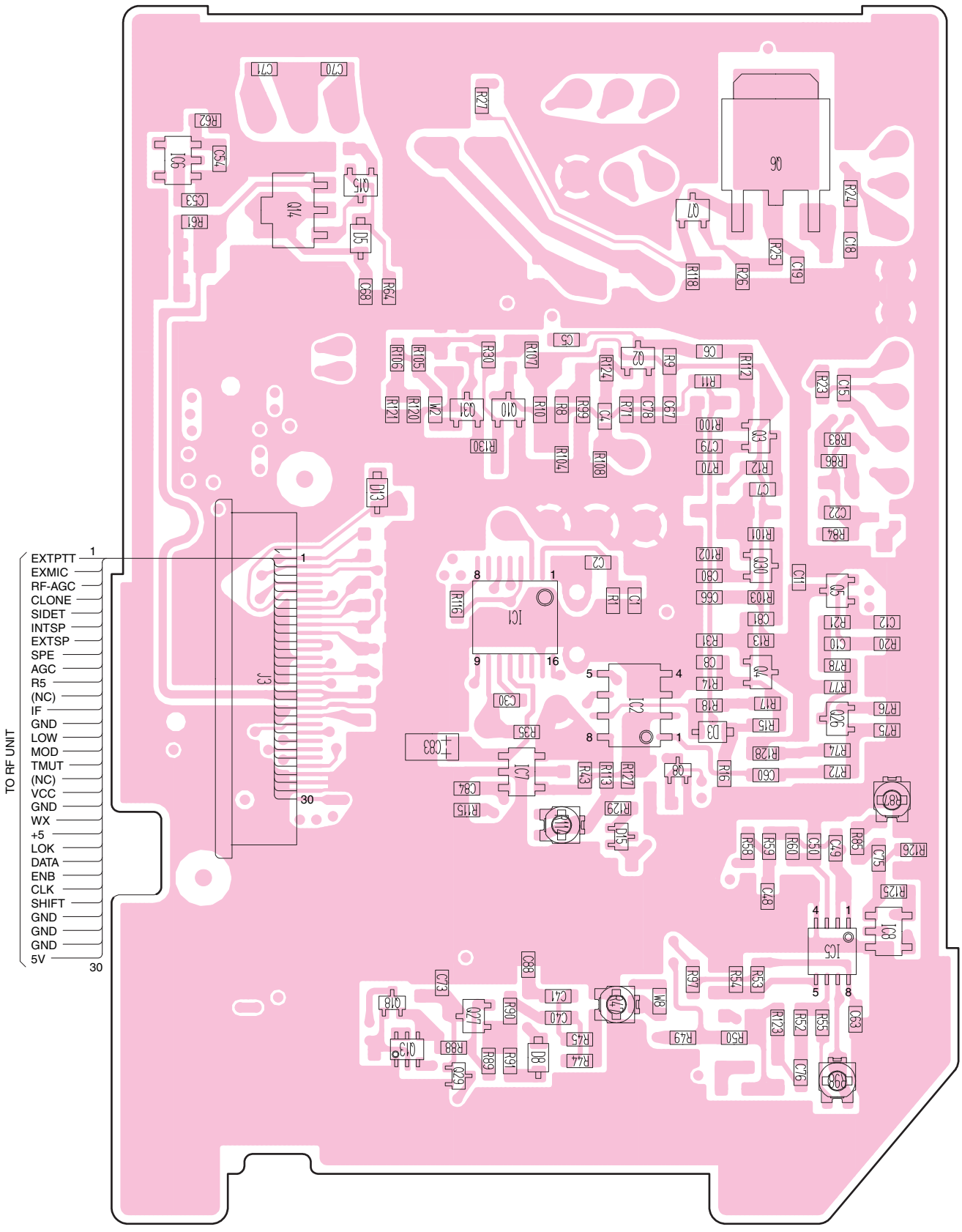
9-5 MAIN UNIT

• TOP VIEW



NOTE: Add "5000" to each indicated part number on the unit for the actual part number.

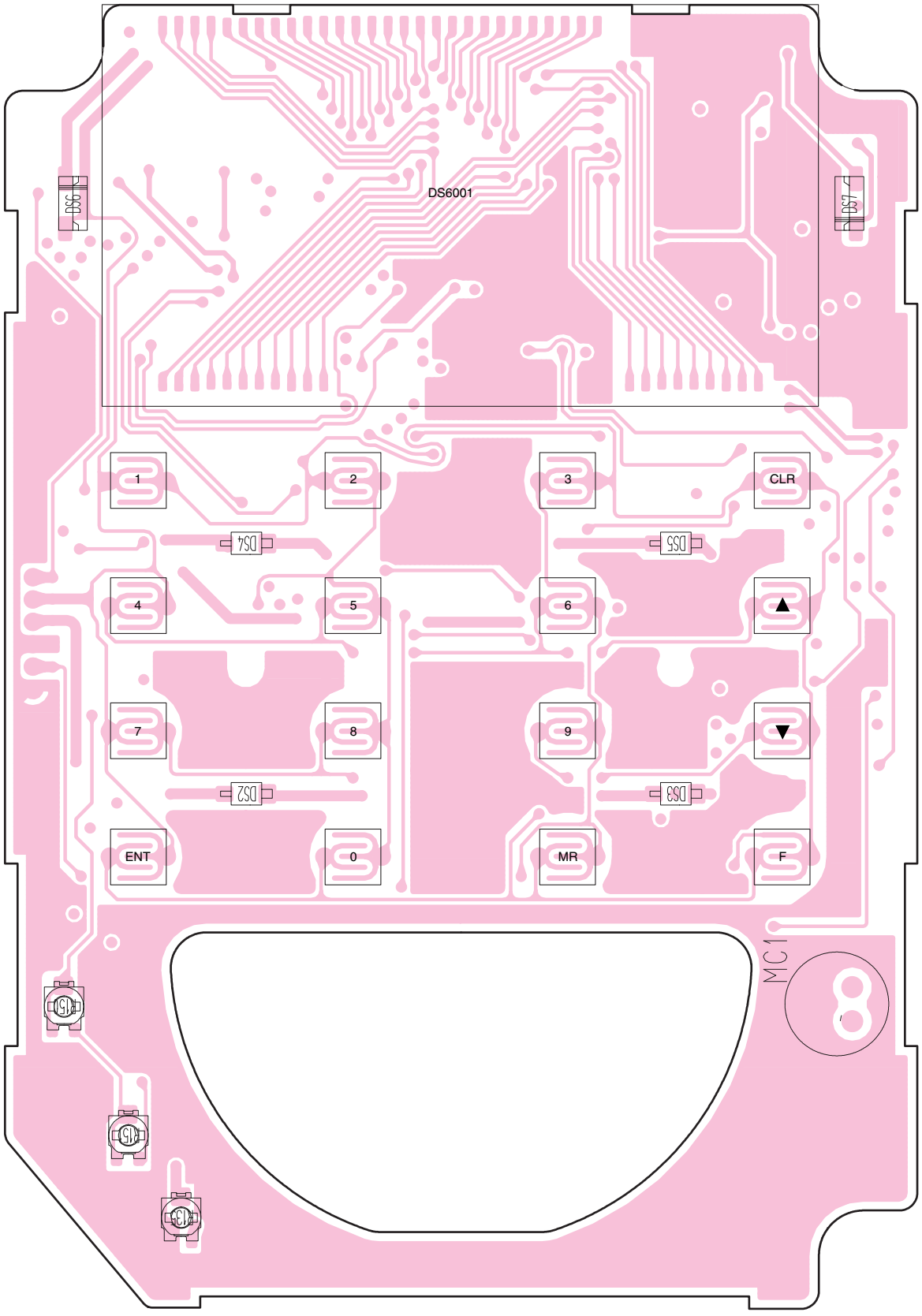
• BOTTOM VIEW (MAIN UNIT)



NOTE: Add "5000" to each indicated part number on the unit for the actual part number.

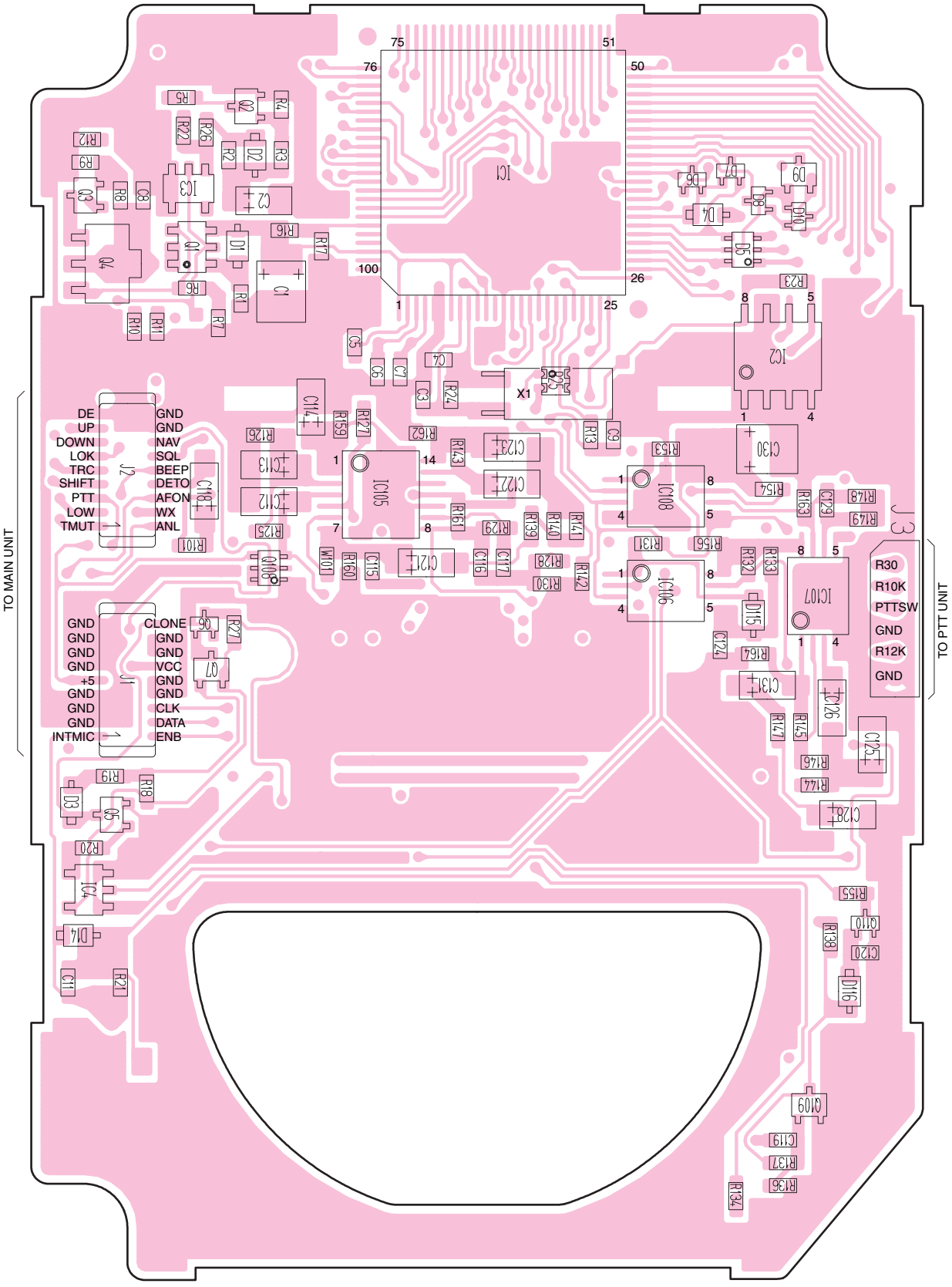
9-6 LOGIC UNIT [IC-A22/E]

• **TOP VIEW**



NOTE: Add "6000" to each indicated part number on the unit for the actual part number.

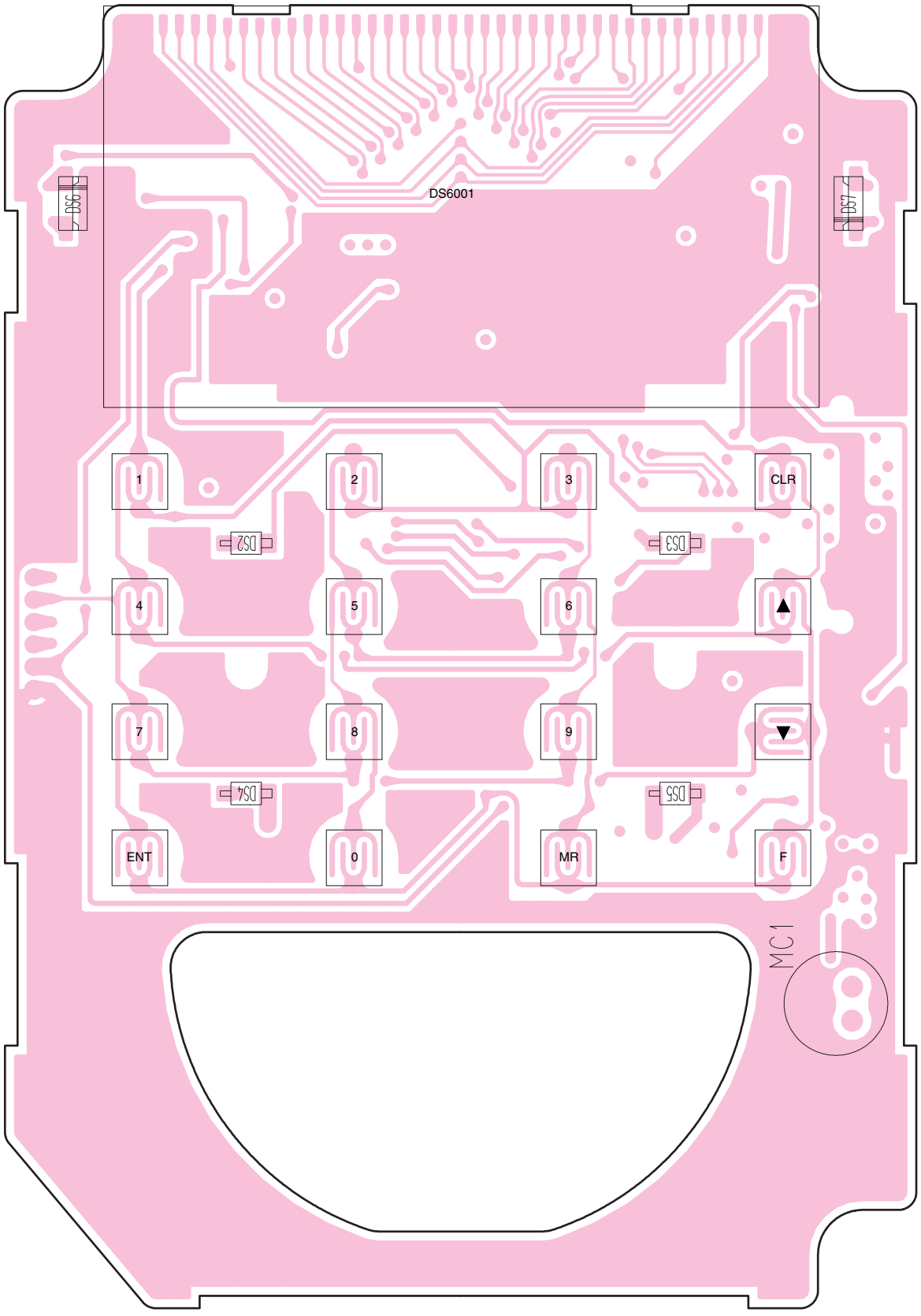
• BOTTOM VIEW (LOGIC UNIT [IC-A22/E])



NOTE: Add "6000" to each indicated part number on the unit for the actual part number.

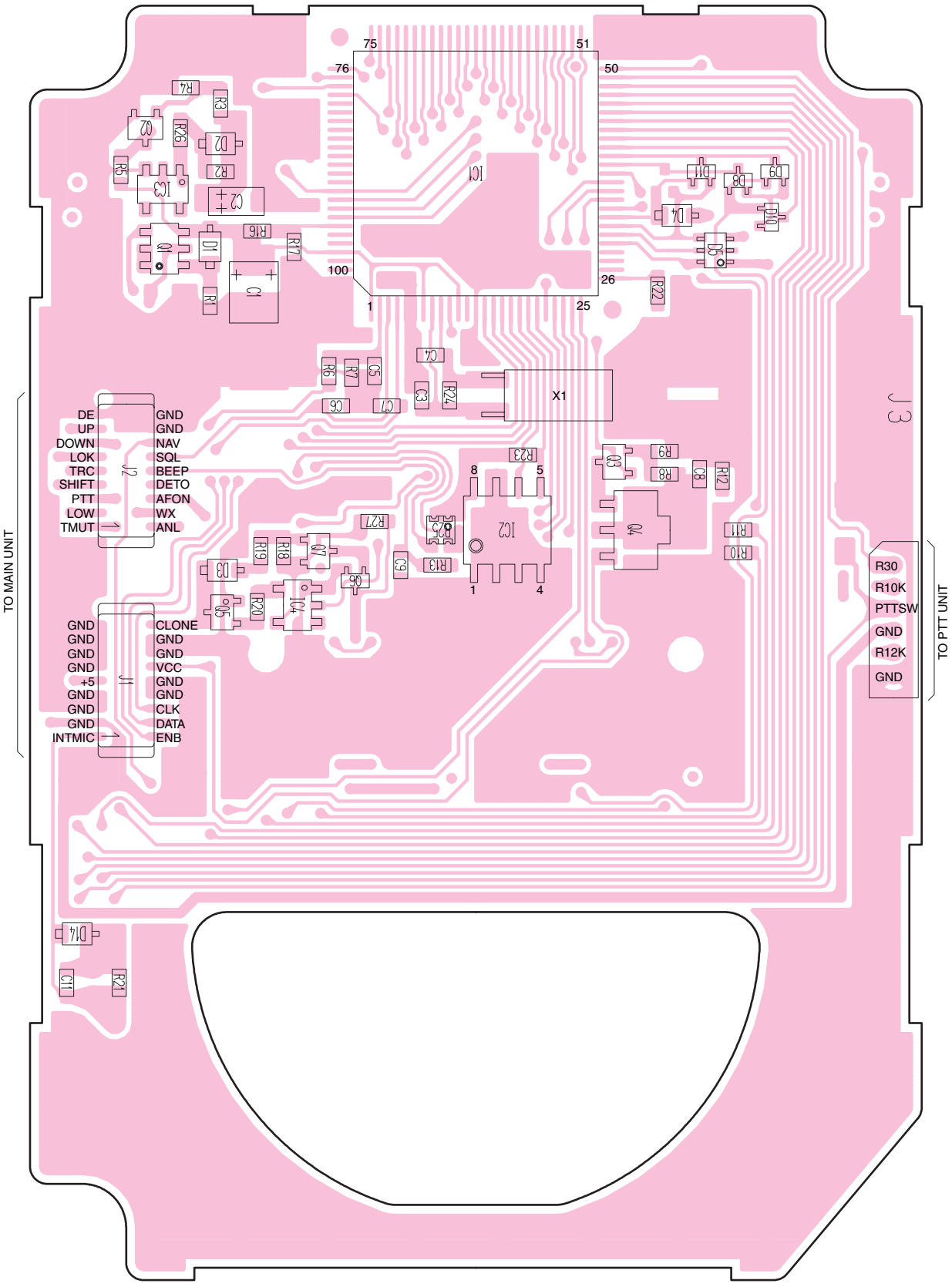
9-7 LOGIC UNIT [IC-A3/E]

• **TOP VIEW**



NOTE: Add "6000" to each indicated part number on the unit for the actual part number.

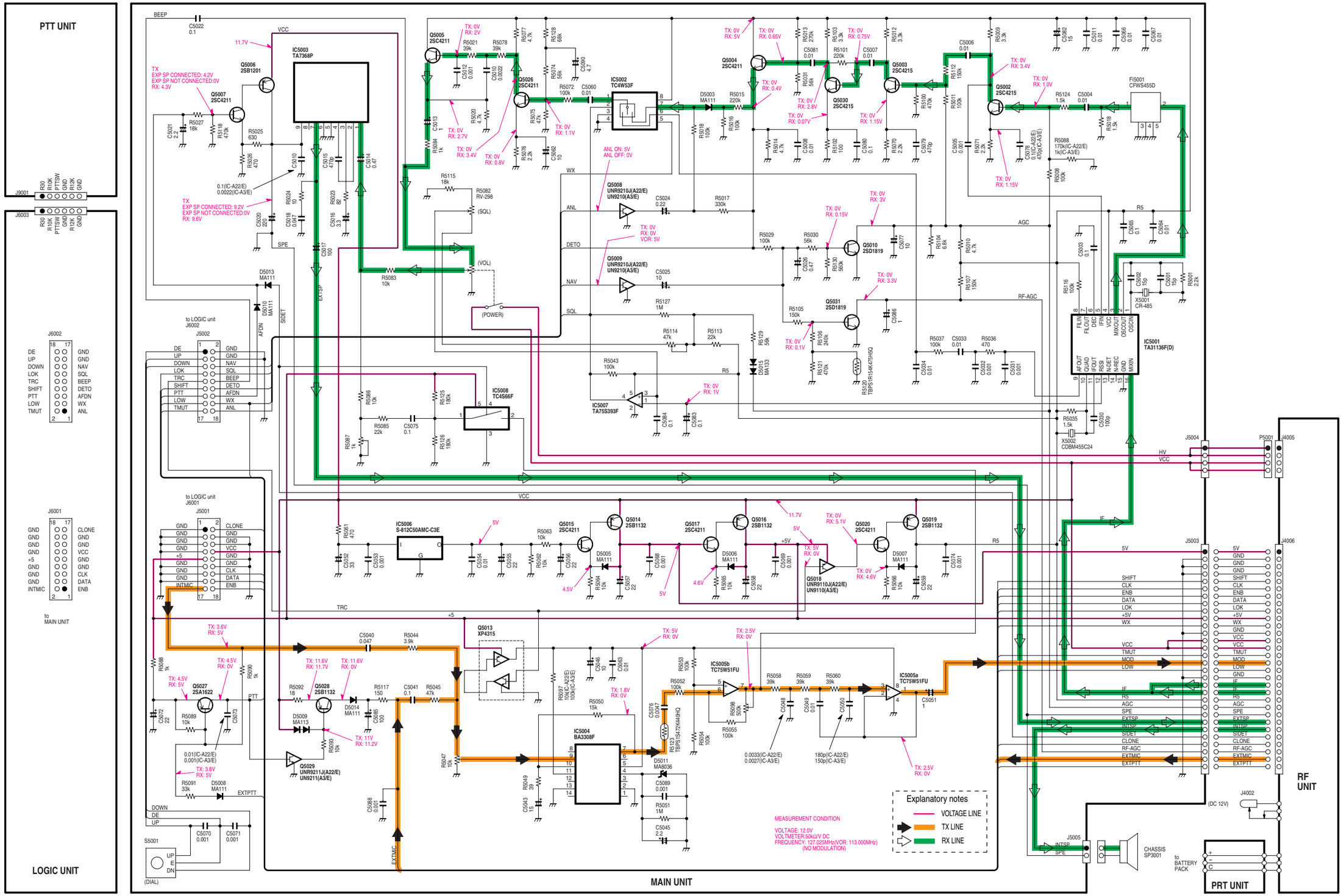
• BOTTOM VIEW (LOGIC UNIT [IC-A3/E])



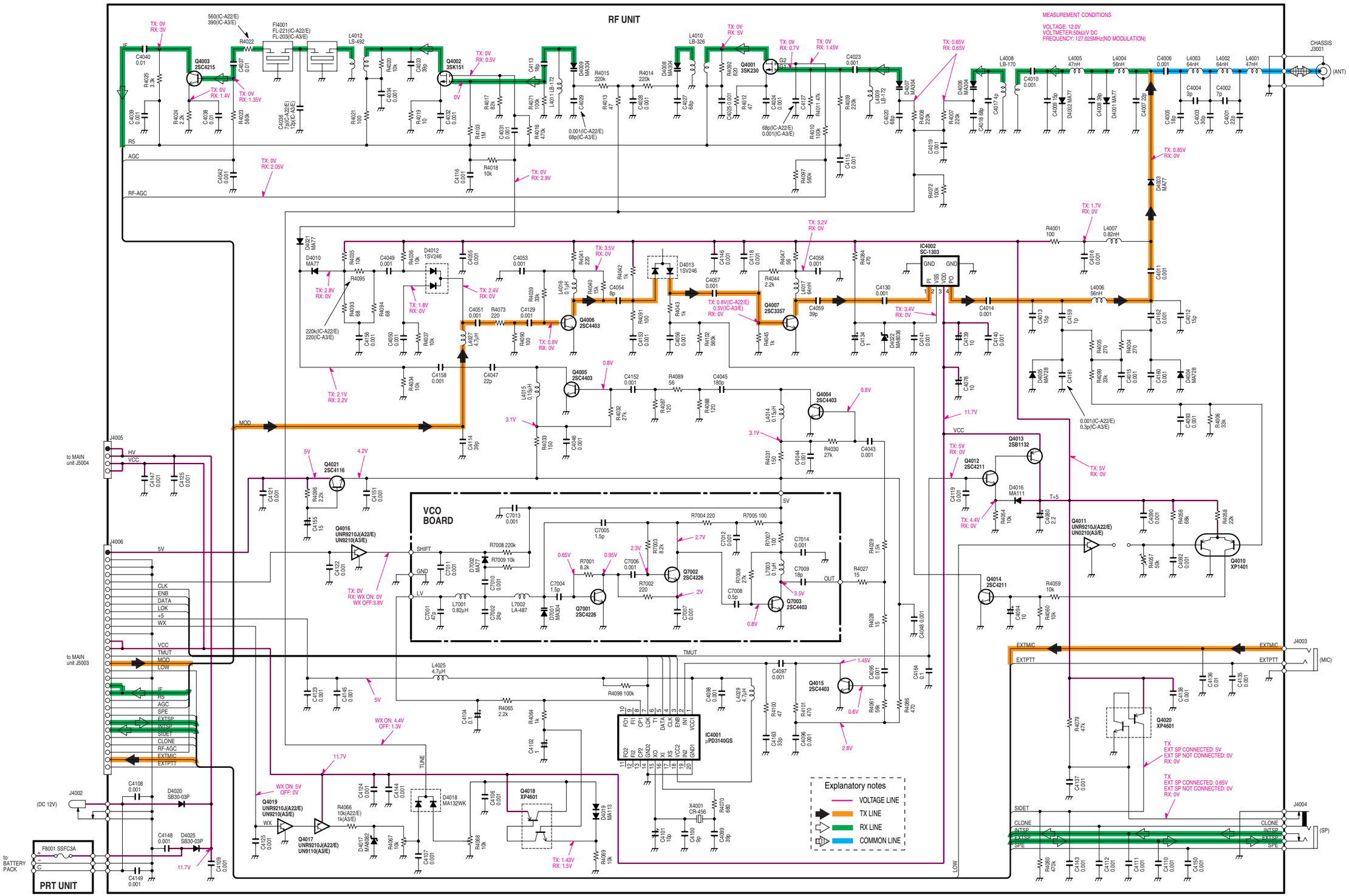
NOTE: Add "6000" to each indicated part number on the unit for the actual part number.

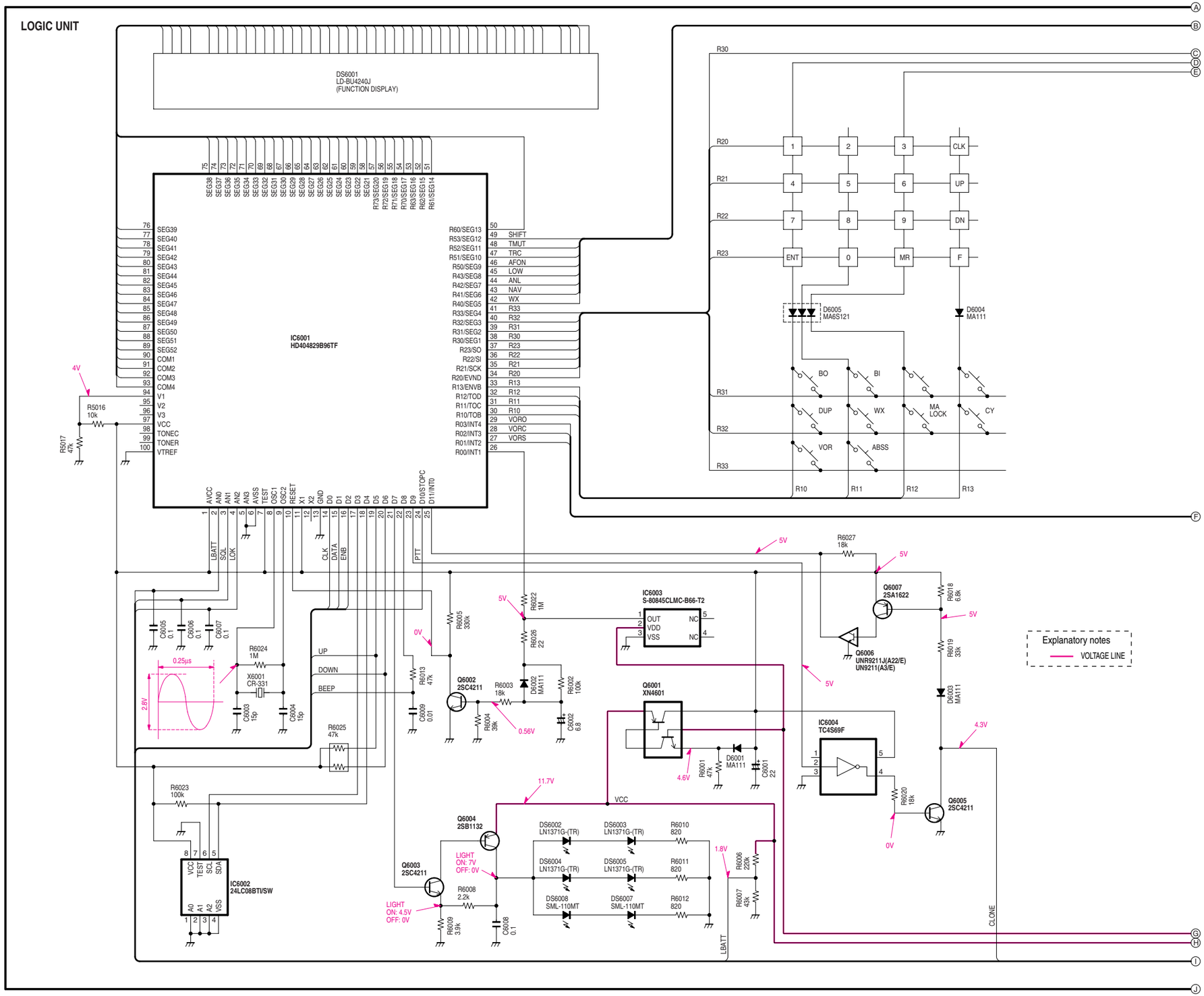
SECTION 10 VOLTAGE DIAGRAMS

10-1 MAIN UNIT



10-2 RF UNIT


RF UNIT
MEASUREMENT CONDITIONS
VOLTAGE: 12.0V
VOLTMETER:50kΩ/V DC
FREQUENCY: 127.025MHz(NO MODULATION)
VCO BOARD
PRT UNIT
Explanatory notes
VOLTAGE LINE
TX LINE
RX LINE
COMMON LINE
IC4002 SC-1303
IC4001 µPD3140GS
Q4003 2SC4215
Q4002 3SK151
Q4001 3SK230
Q4007 2SC3357
Q4006 2SC4403
Q4005 2SC4403
Q4004 2SC4403
Q4015 2SC4403
Q4013 2SB1132
Q4012 2SC4211
Q4014 2SC4211
Q4021 2SC4116
Q4016 UNR9210J(A22/E) UN9210(A3/E)
Q4019 UNR9210J(A22/E) UN9210(A3/E)
Q4017 UNR9210J(A22/E) UN9110(A3/E)
Q4018 XP4601
Q4020 XP4601
Q4011 UNR9210J(A22/E) UN0210(A3/E)
Q4010 XP1401
Q7002 2SC4226
Q7001 2SC4226
Q7003 2SC4403
CHASSIS J3001
(ANT)
(MIC)
(SP)
(DC 12V)
to BATTERY PACK
to MAIN unit J5004
to MAIN unit J5003
F8001 SSFC3A
MOD
TMUT
LOW
VCC
5V
TUNE
WX
SHIFT
GND
LV
OUT
CLK
ENB
DATA
LOK
+5
WX
IF
RS
AGC
SPE
EXTSP
INTSP
SIDET
CLONE
RF-AGC
EXTMIC
EXTPTT
SIDET
CLONE
INTSP
EXTSP
SPE
TX: 0V RX: 3V
TX: 0V RX: 1.4V
TX: 0V RX: 1.35V
TX: 0V RX: 0.5V
TX: 0V RX: 5V
TX: 0V RX: 0.7V
TX: 0V RX: 1.45V
TX: 0.65V RX: 0.65V
TX: 0V RX: 2.05V
TX: 0V RX: 2.9V
TX: 0.85V RX: 0V
TX: 1.7V RX: 0V
TX: 3.2V RX: 0V
TX: 3.5V RX: 0V
TX: 2.8V RX: 0V
TX: 2.4V RX: 0V
TX: 1.8V RX: 0V
TX: 0.8V RX: 0V
TX: 0.8V(IC-A22/E) 0.5V(IC-A3/E) RX: 0V
TX: 3.4V RX: 0V
TX: 2.1V RX: 2.2V
TX: 4.4V RX: 0V
TX: 5V RX: 0V
TX: 1.43V RX: 1.5V
WX ON: 0V WX OFF:3.8V
WX ON: 4.4V OFF: 1.5V
WX ON: 5V OFF: 0V
TX EXT SP CONNECTED: 5V EXT SP NOT CONNECTED: 0V RX: 0V
TX EXT SP CONNECTED: 0.65V EXT SP NOT CONNECTED: 0V RX: 0V
11.7V
4.2V
3.1V
2.7V
2.3V
2V
1.45V
0.95V
0.8V
0.65V
0.6V
3.5V
0V
2.8V
R4022 560(IC-A22/E) 390(IC-A3/E)
FH4001 FL-221(IC-A22/E) FL-203(IC-A3/E)
L4012 LS-492
L4010 LB-326
L4011 LB-172
L4009 LB-172
L4008 LB-170
L4005 47nH
L4004 56nH
L4003 64nH
L4002 64nH
L4001 47nH
L7001 0.82µH
L7002 LA-487
L7003 0.1µH
L4025 4.7µH
L4027 4.7µH
L4007 0.82nH
L4006 56nH
0.001(IC-A22/E) 68p(IC-A3/E)
68p(IC-A22/E) 0.001(IC-A3/E)
0.001(IC-A22/E) 0.3p(IC-A3/E)
220k(IC-A22/E) 220(IC-A3/E)


LOGIC UNIT
DS6001
LD-BU4240J
(FUNCTION DISPLAY)
IC6001
HD404829B96TF
SEG38 SEG37 SEG36 SEG35 SEG34 SEG33 SEG32 SEG31 SEG30 SEG29 SEG28 SEG27 SEG26 SEG25 SEG24 SEG23 SEG22 SEG21 R73/SEG20 R72/SEG19 R71/SEG18 R70/SEG17 R63/SEG16 R62/SEG15 R61/SEG14
SEG39 SEG40 SEG41 SEG42 SEG43 SEG44 SEG45 SEG46 SEG47 SEG48 SEG49 SEG50 SEG51 SEG52 COM1 COM2 COM3 COM4 V1 V2 V3 VCC TONEC TONER VTREF
R60/SEG13 R53/SEG12 R52/SEG11 R51/SEG10 R50/SEG9 R43/SEG8 R42/SEG7 R41/SEG6 R40/SEG5 R33/SEG4 R32/SEG3 R31/SEG2 R30/SEG1 R23/SO R22/SI R21/SCK R20/EVND R13/ENVB R12/TOD R11/TOC R10/TOB R03/INT4 R02/INT3 R01/INT2 R00/INT1
SHIFT TMUT TRC AFON LOW ANL NAV WX R33 R32 R31 R30 R23 R22 R21 R20 R13 R12 R11 R10 VORO VORC VORS
AVCC AN0 AN1 AN2 AN3 AVSS TEST OSC1 OSC2 RESET X1 X2 GND D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 D10/STOPC D11/INT0
LBATT SCL LOK CLK DATA ENB PTT
4V
R5016 10k
R5017 47k
R30
R20 R21 R22 R23
1 2 3 CLK
4 5 6 UP
7 8 9 DN
ENT 0 MR F
D6005 MA6S121
D6004 MA111
BO BI DUP WX MA LOCK CY VOR ABSS
R31 R32 R33
R10 R11 R12 R13
A B C D E F G H I J
5V
R6027 18k
Q6007 2SA1622
Q6006 UNR9211J(A22/E) UN9211(A3/E)
R6018 6.8k
R6019 33k
D6003 MA111
4.3V
IC6003 S-80845CLMC-B66-T2
OUT VDD VSS NC NC
R6022 1M
R6026 22
R6005 330k
0V
R6013 47k
C6009 0.01
Q6002 2SC4211
R6003 18k
D6002 MA111
R6002 100k
C6002 6.8
R6004 39k
0.56V
Q6001 XN4601
4.6V
R6001 47k
D6001 MA111
C6001 22
IC6004 TC4S69F
R6020 18k
Q6005 2SC4211
0V
C6005 0.1
C6006 0.1
C6007 0.1
R6024 1M
0.25µs
2.8V
X6001 CR-331
C6003 15p
C6004 15p
UP
DOWN
BEEP
R6025 47k
R6023 100k
IC6002 24LC08BTI/SW
VCC TEST SCL SDA A0 A1 A2 VSS
11.7V
VCC
Q6004 2SB1132
Q6003 2SC4211
LIGHT ON: 7V OFF: 0V
LIGHT ON: 4.5V OFF: 0V
R6008 2.2k
R6009 3.9k
C6008 0.1
DS6002 LN1371G-(TR)
DS6003 LN1371G-(TR)
DS6004 LN1371G-(TR)
DS6005 LN1371G-(TR)
DS6006 SML-110MT
DS6007 SML-110MT
R6010 820
R6011 820
R6012 820
1.8V
R6006 220k
R6007 43k
LBATT
CLONE
Explanatory notes
VOLTAGE LINE

MEASUREMENT CONDITION

VOLTAGE: 12.0V
VOLTMETER:50kΩ/V DC
FREQUENCY: 127.025MHz(VOR: 113.000MHz)
(NO MODULATION)

MC6001
EM-140
TX: 3.6V
RX: 5V
INTMIC
C6011 0.001
R6821 33k
D6014 MA8051
PTTSW

J6003

PTT UNIT
J9001
S9001 (PTT)
S9003 (ANL)
S9002 (LIGHT)

IC-A22/E ONLY

R6131 39k
IC6106 NJM2903V
R6132 47k
R6133 220k
D6115 MA111
C6124 470P
R6144 15k
R6164 4.7k
R6145 220k
R6146 220k
C6125 0.1
C6126 0.1
C6131 10
R6147 18k
IC6107 NJM2904V
R6148 180k
R6149 18k
C6126 0.1
C6129 0.0047
R6150 20k
R6151 500k
R6163 4.7k

TX: 0V
RX: 0V
VOR: 1.9V

R6159 4.7K
C6114 10
IC6105 NJM2902V
R6125 56k
R6127 220k
R6126 33k
C6113 1
R6143 220k
C6122 0.1
C6123 0.1
R6162 4.7k
R6156 470
C6121 3.3
R6139 18k
R6140 4.7k
C6112 10
C6115 0.1
R6160 4.7k
R6126 6.8k
R6141 TBPS1S333K460H5Q
R6142 33k
IC6108 NJM2903V
R6153 100k
R6154 100k
C6130 22
DET0
C6116 0.1
R6101 220k
C6117 0.01
C6116 0.01
R6129 150k
R6130 1.8K
R6161 4.7K

Q6108 XP4315

+5

TX: 0.1V
RX: 0.1V
VOR: 0.55V
TX: 0.35V
RX: 0.35V
VOR: 1.1V
TX: 4.9V
RX: 4.9V
VOR: 4.9V
R6155 47k
R6134 39K
R6138 47K
D6116 MA111
Q6110 UNR9213J(A22/E) UN9213(A3/E)
R6137 330k
C6119 0.01
C6120 0.1
R6135 47K
R6136 39K
Q6109 2SC4211
NAV
TX: 0V
RX: 0V
VOR: 5V
TX: 0.55V
RX: 0.55V
VOR: 5V
TX: 0.1V
RX: 0.1V
VOR: 0.75V
VORO
VORC
VORS

J6002
DE
UP
DOWN
LOK
TRC
SHIFT
PTT
LOW
TMUT
GND
GND
NAV
SQL
BEEP
DETO
AFON
WX
ANL
to MAIN unit J5002

J6001
GND
GND
GND
GND
+5
GND
GND
GND
INTMIC
CLONE
GND
GND
VCC
GND
GND
CLK
DATA
ENB
to MAIN unit J5001

5V

Explanatory notes
VOLTAGE LINE
TX LINE

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